

AMERICAN ARTISAN and Hardware Record

Vol. 81. No. 23.

620 SOUTH MICHIGAN AVENUE, CHICAGO, JUNE 4, 1921.

\$2.00 Per Year.

WHEN a customer asks for a Heller File he knows what he wants. He knows that Heller Files are good files and that they are manufactured to meet the requirements of discriminating file users. He knows that Heller Files receive special tempering and that they give extra good service.



Heller Files are made from our own production of special refined clay crucible cast steel and manufactured by special machines of our own patented construction.

For over half a century hardware dealers have made good profits selling Heller Files.

We will be glad to mail you our latest illustrated catalog.

Write for it today.

Heller Brothers Company

Established 1836

Incorporated 1899

Newark, New Jersey

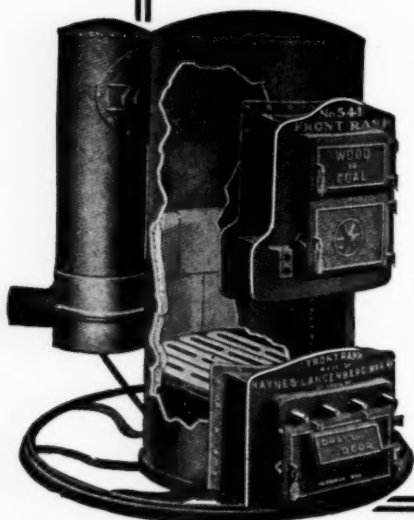
FRONT RANK

TRADE NAME REGISTERED

*"Living up
to its name"*

NOW—and for thirty
years past.

*Our dealer selling co-operation
for 1921 is complete in every way.
It will get sales for you. Write
for catalog and prices today.*



WHEN you compare feature for feature you will find that this steel furnace has no point in construction or operation that can be made a weak spot in your sales argument. You want to sell a furnace that is absolutely gas and soot proof—one that gives your customers clean, economical heat—a furnace that won't warp or buckle. You want to sell the

FRONT RANK
TRADE NAME REGISTERED

Steel Furnace

Its radiating surface is exceptionally large. It is made of tested metal, cold riveted heavy steel plate. It is fool-proof—always in order. The furnace that gives you not only good profits but safe profits. *Ask about our agency NOW.*

Haynes-Langenberg Mfg. Co.

4058 Forest Park Blvd.

St. Louis, Mo.

The Advantages of Selling This Powerful Heater

YOU sell a real heater when you sell a Niagara. A heater that is high grade in all respects.

Notice the large feed doors and unusually large radiating surface.

The fire pot is very deep and made in two sections.

All the joints are deep cut joints, accurately fitted, making them gas and dust proof.

The Niagara Warm Air Heater is distinctive because of its massiveness and exceptional durability.

These features make it a powerful heater, a heater that your customers want.



Write us today for particulars
on agency for our complete line.

Forest City Fdy. & Mfg. Co.
Cleveland, Ohio

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests

AMERICAN ARTISAN and Hardware Record

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TERMS OF SUBSCRIPTION IN THE UNITED STATES AND ITS POSSESSIONS (Invariably in Advance) ONE YEAR POSTAGE PAID \$2.00
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NOW FOR VACATION MERCHANDISE!

Vacation time is approaching and with it comes the opportunity for increased business provided the proper preparation and arrangement have been made.

The vacationist will be looking for many items that are classed as staples in most hardware stores, such as baseball and tennis outfits, cameras, cutlery, fishing tackle, and if he is figuring on a camping trip there will be many other articles that he will need and which he will buy if he is properly guided, such as portable cook stoves for gasoline or kerosene; cooking and serving utensils of comparatively indestructible material—aluminum or enamel ware; vacuum bottles; bathing suits; and hundreds of other items, in all of which there is good profit.

In order to reap the full benefit of the opportunity thus presented, it is necessary, of course, that suitable preparations be made.

First, your stock must be reasonably complete, so as to avoid the necessity on the part of the customer for "shopping around." You must be in a position to fit him out with practically everything that he may fairly expect to be able to purchase in a hardware store.

This matter should be attended to at once. Go through your stock and make notation of such items as are needed to round out your showing of vacationist supplies. Place your order for the missing items and specify delivery before July first.

Next, set aside some portion of your store for a special display of this line. If you can arrange a "camp scene" right in your store, so much the better, as that will give you a chance to show many articles in such a manner as almost to force themselves upon the customer's attention—which of course means

easier, increased and more diversified sales.

It has been found that a list, typewritten on ordinary sheets, with price on each item, is a wonderful help in stimulating purchases, and such a list should be prepared with exceptional care, so as to make sure that it contains everything that a camper or ordinary vacationist can possibly need or make use of.

Then comes your advertising in newspapers, by letters and circulars and in your window displays.

Whatever may have been your attitude toward newspaper advertising in the past—don't be stingy at this time. Use liberal space enough to make it possible for you to impress the reader with the fact that he can secure all of his supplies for his vacation trip at your store—all that can reasonably be expected to be found in a well-conducted hardware store.

Another point in this connection. Quote specific prices on at least some of the items that you mention, so as to show the prospective customer that your prices will fit his appropriation for the trip.

In your window displays follow the same idea. While not crowding your windows full to overflowing with stuff, show a fair range of your stock—and make liberal use of price tickets and show cards, so as to draw attention to the completeness of your line and the reasonableness of your prices.

All of this means work, but one gets very little out of this world without doing some work for it—and after all, the real hardware man finds great satisfaction in planning and executing just such jobs as the one outlined in the foregoing, because he knows that with the properly executed job comes also the merited reward—in the shape of increased

sales and profits, as well as in higher standing among his customers.

♦ ♦ ♦ ♦ ♦

You probably know the story of the dissatisfied farmer who hired an advertising man to write a description of his property for sale. When he read the description, his eyes were opened to the values and opportunities in his farm which he had never perceived. He saw for the first time that its resources had not been fully developed nor its earning power properly exploited.

The story has its application to many a retailer who is dissatisfied with the apparent limitations of his business and who dreams of some vague and, perhaps, stupendous force to energize his sales. All the while he has the needed force in himself and in the familiar merchandise of his store.

Under certain conditions water is as strong as gunpowder. A cubic foot of water heated to the temperature of steam at seventy pounds pressure contains as much energy as a pound of gunpowder.

Water is plentiful. Gunpowder is comparatively scarce and costly.

The moral is to use the forces at hand to build up your business. They are ample for the purpose.

♦ ♦ ♦ ♦ ♦

The influences of little things in multiplying sales is greater than many merchants imagine. A poppy seed is not much bigger than a period at the end of a sentence. But it grows into a plant thousands of times bigger than itself. The little things of courtesy and kindness are the poppy seeds of business. By attention to them, the head of a chain of eleven retail stores increased his business in four years from three-quarters of a million to over four million dollars. He sums up the secret of his success in these words:

"Store personality—that's the keynote of everything we've done. Whether it's ash trays placed in convenient spots about the store for the men, rest rooms for the women, or any other detail of service to customers, we have found it's always the 'little things' that count most."

"Attention to the various 'little things' of a

business is only another name for the biggest word in retail merchandising—Service.

"It is service to the community for a dealer to standardize and specialize on nationally advertised, fast-selling lines—to concentrate on those products that he himself believes in, is enthusiastic over, likes to stand back of and fight for if need be. When your store is 'sold' on a product in this way, it is easy to sell it to others."

♦ ♦ ♦ ♦ ♦

Making due allowance for motives of self-interest, there is much substance of fact in the statement contained in the bulletin of the American Hard ware Manufacturers' Association that goods are becoming scarce. The retailer who plans his selling campaign in advance of the day's or week's business would do well to ponder the suggestions which accompany the statement. They are as follows:

While production of goods was being drastically curtailed, consumption went on as usual. Quite a number of merchants are discovering that they can not pick up spot goods as readily as they had expected.

As for "big bargains," retailers who are anxious to make a splash with special sales find extreme difficulty in locating any. The conditions which have been brought about have given rise to a good deal of talk about further advances in prices. Such talk is untimely.

The main aim and end of manufacturers and merchants alike should be to do everything possible to bring about a revival of healthy buying at the lowest prices practicable.

It will be time enough to talk of advancing prices after business throughout the country is again moving briskly.

The present policy should be to co-operate in stimulating demand rather than maneuvering to bring about advances which can be avoided.

It is seemingly a paradox that, when sales diminish in number and frequency, goods become scarce. But this fact is easy to explain. Decreased sales mean lessened demand. Lessened demand results in reduced production. The moral of this condition is for the dealer to quicken his merchandising and then to order his goods far enough in advance to make certain of supplies.

Random Notes and Sketches

By Sidney Arnold

It makes one feel like thirty cents with a hole in it to go carefully into all kinds of details in giving a nice explanation of a thing and then find that the person to whom you were explaining didn't understand what you were saying. Here is an illustration of what I mean, which was supplied by my friend "Josh" Billings, of Dearborn Hardware Company, Chicago, Illinois:

"Now first you prime the motor with the priming gun, after making sure there is plenty of gasoline and lubricating oil in the tanks. Then pedal it lively, and while the motor is turning over drop the valves—thus. This grip controls the spark and lifts the valves, the other controls the throttle. Then release the clutch and put on the brake to stop the rear wheel from spinning; then put the machine down from the stand and get into the saddle; then open the throttle—just a trifle—and gradually engage the clutch, keeping the spark fully advanced all the time. Then as the machine gets under way bring the clutch lever way back."

"Yes, I fully understand; but how do you start the machine?"

* * *

I was very glad to greet my good friend, Samuel Jacobs, Vice-President and General Sales Manager of Fanner Manufacturing Company, Cleveland, Ohio, during my recent visit to the "Fifth City."

"Sam" had a hard fight all winter but got through with flying colors and is beginning to take an active part once more in the management of the great business of his Company. He was greeted by scores of friends in the National Heating and Ventilating Association, all of whom expressed their pleasure at seeing him looking so well after his long siege of sickness. Mrs. Jacobs and Miss Virginia, however, are keeping careful watch over him so that he does not get too aggressive and active before he regains his former strength.

* * *

There are reasonable limits to service, in the estimation of Harry Van Bayse of American Furnace Company, St. Louis, Missouri.

He cites this example:

The woman in the crowded downtown department store wore a very irritated expression on her face.

"I've been waiting such a long time," she complained to one of the clerks.

"Sorry, madam," he said, "but we must take our customers as they come."

"Wretched service!" the woman was heard to mutter.

"Now, what is it, madam?" the clerk asked, returning to her.

"Could you tell me how to get to the nearest Broadway subway station?" she asked.

* * *

Here is a story that will take the frown out of the worst grouch imaginable. It was sent me by my friend Ed H. Hoffeld, vice-president and general manager Ferdinand Dieckmann Company, Cincinnati, Ohio.

A recent experience of a Virginia clergyman throws

light on the old English law requiring that marriages should be celebrated before noon. A colored couple appeared before him, asking to be married, the man in a considerably muddled state. The minister said to the woman, "I won't perform this ceremony."

"Why is dat, boss?" she queried. "Ain't de licenses all right? And we is of age."

"Yes, but the man is drunk. Take him away and come back again."

Several days later the couple again presented themselves, the man once more obviously intoxicated.

"See here, I told you I wouldn't marry you when this man was drunk," the minister said testily. "Don't you come back here till he's sober."

"Well, you see, suh," the woman replied apologetically, "de trufe am dat he won't come less'n he's lit up."

* * *

We were talking about the grievances of children and my friend Adolph Munkel, President Master Sheet Metal Contractors' Association of Ohio, Columbus, Ohio, contributed this gem to the conversation:

Jennie, aged five, had been naughty and her father had had to administer vigorous correction before going to business.

That an impression had been made was apparent when, on his return from business in the evening, Jennie called up stairs with frigid politeness:

"Mother, your husband's home."

* * *

Waiting for trade to come without the right kind of preparation, reminds my friend John M. Wallace, President Chicago Retail Hardware Association, of a couple of Irishmen who met in the street.

One of them asked the other:

"What's this I hear about Clancy?"

"He's been tryin' to asphyxiate himself."

"G'wan! What did he do?"

"He lit every gas jet in the house and sat down and waited."

* * *

It's a mighty good thing for us that grumblers do not get their wishes in this world. Otherwise, we would find ourselves in the kind of place described in the following lines:

Grumblatown.

Away out here, in Grumblatown,
All things are turning upside down.
The grass is blue, the sky is green,
A cloud or storm is never seen.
The stars shine brightest just at noon.
There is no new or wane of moon.

Figs grow on vines and grapes on trees,
We hive our horses and drive our bees;
The birds eat hay, the cows all sing;
There are four right angles to every ring:
The islands here by land are bound,
And in the sea all lakes are found;
When tired workmen seek their rest
The sun is rising in the west.

The rich are working in the street,
The beggars at the club house meet,
The poor pass by with careworn brow,
For they have all the money now.
Old men do reverence to youth,
And politicians tell the truth.
All things have changed around about,
Crisscross, contrary, inside out,
Topsy turvy, upside down,
To please the people of Grumblatown.

People Will Buy Stoves This Spring, Says Lee of Seattle, Washington.

This Story Tells How Customers Were Found for 82 Red Star Oil Stoves in One Week.

Seattle, Washington, is far from being in the state of boom. Factories have been shut down, just as is the case all over the country. Lots of people are either out of work or employed on "part time" jobs.

money to spend—and would spend it—for reliable merchandise.

In the April 16th issue of AMERICAN ARTISAN AND HARDWARE RECORD, there was published an article in

which the facts were related about a selling campaign on Monarch Malleable Ranges recently conducted by the Grote-Rankin Company, the result of which was the sale of 104 of these well known ranges in one week.

Here is another example of aggressive selling methods—also from Seattle, and it is interesting to note that this selling campaign also had for its main object that of kitchen ranges—in this case, Red Star Oil Stoves.

The campaign was conducted by Harry R. Lee, Manager of the Housefurnishings Department of the Standard Furniture Company of that city during the week of



Store of Standard Furniture Company, Seattle, Washington, Which Sold 82 Red Star Oil Stoves in One Week. Newspaper Advertisement, Window Display and Inside Booth Which Helped in Campaign.

Some of the retailers there took it for granted that there was "no business," and acted accordingly—just made up their minds that no matter what they might do, people would not buy.

They were not disappointed: People did not buy—from them!

But there were retailers—merchants—who said to themselves that although conditions were not good, there would always be some householders who had

March 14th to 20th—not usually considered a very good time for the sale of oil stoves.

Mr. Lee says of the campaign as follows:

"We chose the week of March 14th to 20th and although business conditions are supposed to be bad and this particular time of year a little early in the season for oil stoves, we go on the theory that the early bird catches the worm.

"It has always been the policy of this store to sell

only thoroughly reliable merchandise and we boast of any number of nationally known and advertised lines. The record we made in this sale of Red Stars is easily the most remarkable that our organization has ever made on any line and I am firmly convinced that this expression of confidence is the result of the good impression people have formed of the Red Star through the national advertising, together with the fact that our patrons have always found the Standard Furniture Company a trustworthy place to trade."

This sale bears witness to the fact that careful planning pays. Here is seen a pre-arranged plan of action that was followed to the last small detail while the results leave no room for argument as to whether or not it is the logical way to conduct a sale.

One of the newspaper advertisements is shown in the illustration. It was the opening announcement, occupying a space of four full columns and appeared in the *Seattle Times* on Sunday, March 13th. Fortunately, the *Times* is one of the very few papers in the United States that are able, mechanically to print newspaper advertisements in two colors, consequently this advertisement was run in a combination of red and black. The illustration forming the basis of the announcement is a reproduction of the Red Star advertisement which appeared in the *Saturday Evening Post* on March 12th, and in the *Country Gentleman* on March 19th, affording a fine tie-up with the national advertising of the Detroit Vapor Stove Company.

This advertisement was followed by three others, each 3 columns wide, in the papers of Seattle during the week of the sale.

The newspaper advertising was backed up by the Red Star window display shown in the illustration. This window which fronts on one of the city's principal streets, was the means of attracting a great deal of attention to the sale, and quite a few sales were traced directly to it.

The stoves were sold in the house-furnishing department on the fifth floor. The mighty attractive Red Star booth is shown in the cut and this is a permanent display. It gives a very good idea of the newer ways of merchandising different lines by giving each an individual floor display.

The booth contains a few chairs so that the stoves may be demonstrated conveniently and without tiring the customer. Red Star display cars are shown placed conspicuously in the booth and a small table contains the literature on the different models.

A special series of sales letters were mailed to a list of selected prospects. Red Star folders were enclosed with each letter which was mailed prior to the sale.

The stoves were sold under the club plan idea of monthly or weekly payments, and to prove that price was only a secondary consideration the prices at which the various styles were sold are cited herewith. Number 215 for \$110.00; Number 218 for \$90.00; Number 240 for \$60.00; Number 230 for \$50.00, and Number 225, a water heater, for \$80.00.

One of the out of the ordinary sales features was the colored mammy who presided over the cooking during the sale. She proved to be a most popular attraction and was kept busy turning out huge pans of golden brown baking powder biscuits every few min-

utes. These were served piping hot with coffee to all who came.

The sales averaged nearly \$1,000.00 each day—for Red Stars alone—and altogether 82 of them were sold during the week.

Surely, that is good proof that there are people who will buy—even if "conditions are bad."

You will find that this statement holds good in your locality.

But you will not find those people who are willing to buy and have the money, unless you go out looking for them.

Get your "think tank" in operation and set to work to cash in on "the other fellow's" inactivity.

Hardware Men Take an Interest in Vocational Training.

An example of practical community work which benefits the retailer and enhances his standing among the people was given a few days ago by more than 50 hardware men of San Bernardino County, California, who came to Riverside, California, to attend a lecture.

The subject was "The Vocational Program for Riverside," and the speaker was Professor H. H. Bliss of the Riverside Junior College.

The 50 hardware men believe in industrial education and are advocates of community betterment through such training.

Professor Bliss stated that education is now a public matter, carried on in the name and at the expense of the body politic, saying that it is worth while to inquire why the city, the county and the state should give attention and support to this work in which lies the justification for the compulsory attendance of those 16 to 18 years old.

"In our course in carpentry, for instance," he said, "we shall set up as our objective the making of a boy into a thorough workman and a successful, producing citizen.

"We shall spend four years upon him, devoting a full half of his school time to practical work upon a commercial basis, and of the remainder we shall devote a larger percentage to training him in the mathematics and drawing which a carpenter needs, giving him a thorough grounding in contracts, teaching him to figure costs, etc.

"The remainder of his curriculum will include physical training and the hygiene peculiar to the carpenter's trade, and a careful study of what citizenship should mean to him as a carpenter and a useful member of his community.

"These 'related subjects' will have a vital interest for the boy on account of their close connection with the work for which he is preparing, the theoretical based upon and exemplified by the practical and thus appealing to his instinct and ambition.

"We shall keep steadily in view the basic purpose of training for production, of preparation for useful and effective citizenship. With the support of a forward looking public we shall succeed in creating new human values and in raising up a body of citizens whose trained abilities will serve the fundamental needs of our community."

naces, electric washing machines, electric sweepers and stoves.

"Located as we are in a rich manufacturing district, we look forward to a good volume of business this coming year, and the sale held on our Opening Day is but the initial effort of an advertising campaign to be continued all through the year."

Issues Program of Mississippi Hardware Convention.

Two days of solid business "with the best line-up of speakers we have had in years," is the way Secretary-Treasurer E. R. Gross describes the program of the forthcoming convention of the Mississippi Retail Hardware and Implement Association, which is to be held June 14, 15, and 16, 1921, in the great Southern Hotel, Gulfport, Mississippi.

"We have selected one of the most pleasant and enjoyable places in the state for our meeting," he continues. "After our hard round of business, we will take the last day, Thursday, for a rousing good time just before going home again."

"Entertainment is also being provided for the ladies."

"Summing it all up, Mississippi dealers are looking forward to the best and most profitable time in the history of Mississippi."

The program of the session is as follows:

Tuesday, June 14, 1921.

8:30 a. m. Registration.
9:30 a. m. Question Box.
10:30 a. m. Invocation by Rev. W. L. Linfield, First Methodist Church, Gulfport.
Address of Welcome by Mayor C. R. Hayden, Gulfport.
Response by L. J. Doak, Grenada, Vice-President.
President's Address, R. A. Stingley, Pelahatchie.
1:30 p. m. Announcement of Committees.
Address, "The Road to Happiness," by C. M. Johnson, Rush City, Minnesota.
Address, "Excess Profits," by S. R. Miles, National Retail Hardware Association.
Report of National Congress at Buffalo by R. A. Stingley.
5:00 p. m. Exhibit open to members.
7:00 p. m. Exhibit open to public.
Everybody invited, orchestra.

Wednesday, June 15, 1921.

9:00 a. m. Question Box.
10:00 a. m. "Trade Building," by Hamp Williams, Hot Springs, Arkansas.
Address by Rev. W. J. Mahoney, First Baptist Church, Gulfport.
Secretary-Treasurer's Report, by E. R. Gross.
12:30 p. m. Annual banquet.
3:00 p. m. "Cost of Doing Business," by C. M. Johnson, Rush City, Minnesota.
"The Dealer and the Community," by D. C. Hull, President Mississippi A. and M. College.
"The Hardships of the Hardware Business," by Rev. H. H. Snee, First Episcopal Church, Gulfport.
4:00 p. m. Exhibit open.
8:00 p. m. "Stock Arrangement," by S. R. Miles, National Retail Hardware Association.
Business session.

Thursday, June 16, 1921.

Recreation Program.

Dealers and visitors will be entertained, a trip by car to Biloxi, then a boat ride. A picnic lunch and return on time to take evening trains home. Details announced at the convention.

Organizes Safety Razor Company.

With a capital stock of \$50,000, the Elgin Safety Razor Company, Buffalo, New York, has been incorporated by J. and W. Nowak, W. J. Slisz, and others.

There Is Good Profit in This Useful Faucet Attachment.

The Widney Any-Heat Faucet which is shown in this accompanying illustration is one of the late inventions which not only serve a very useful purpose but yield the retail hardware dealer a very liberal profit and at the same time save the householder a considerable sum of money.

As shown in the illustration, this appliance consists of a T-shaped joint, fitted with a "screw" sleeve on each end of the horizontal part. In the outside end of each sleeve there is a rubber washer. It is highly



Widney Any-Heat Faucet.

polished and nickel plated, so as to match the sink faucets.

The purpose this little device serves is the same as that of the "mixer" in the modern bath tub—to allow the water for dish washing or laundry work to come out of the T-joint at any desired temperature.

It is very easy to install. In fact, no tools are necessary. No disconnection of the water line. Any one can attach the appliance in less than ten minutes.

The established retail price is \$1.85, and there is a discount of 40 per cent for the dealer, so that his profit is 74 cents on each sale. The plumber usually charges about \$12.00 to install a regular "mixer," which gives the hardware man a fine talking point.

For further information dealers should write to the Widney Any-Heat Faucet Company, Monadnock Building, Chicago.

Gets Trade-Mark Registered for Gas Water Heaters.

Bastian-Morley Company, La Porte, Indiana, has procured United States Patent Office registration, under number 140,026, for the trade-mark herewith reproduced. The particular description of goods to which it applies is gas water heaters. The Company claims use since February 28, 1912.

Company Is Incorporated to Manufacture Razors.

The Tru-Way Razor Company, Emsworth, Pennsylvania, has been incorporated with \$90,000 capital stock to manufacture razors and other cutlery. The incorporators are T. M. Pinkerton, George T. Miller, and John H. Vance.

Hardships of something cheaper.

Good Ideas for Window Display

Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. How to Get More Passers-By to Come into Your Store.

STOVES FORM A PROFITABLE WINDOW DISPLAY.

If one were to derive one's idea of the thoughts uppermost in the minds of the people from the daily papers, one would conclude that people were thinking about Ex-Secretary Lansing's book on Wilson's part in the League of Nations, or Harding's message to Congress.

As a matter of fact, however, world problems, including the German indemnity and the Japanese mandate over Yap, make about as deep an impression on the average folk as midsummer afternoon showers.

different styles of stoves sold by the Bunting Hardware Company.

It will be noted that Mr. Gress contrived to convey the impression of completeness so that the prospective customer could be sure of getting everything that he needed to set up any of the stoves with all the necessary accessories.

In carrying out this purpose, stove polish and enamels, stove pipes, pokers, lifters, scuttles, and the like are shown in the foreground in connection with the stoves.

A distinct increase of sales was brought about by this excellent and effective window display.



Window Display of Stoves Designed and Arranged by Otto J. Gress for Bunting Hardware Company, 810-12-14 Walnut Street, Kansas City, Missouri.

The truth is that most persons are occupied about their own necessities and diversions.

When a few neighbors get together, they talk about buying a new rug for the parlor or a spare tire for the old flivver or a new stove for the kitchen or a hat for Mary and a pair of shoes for Billy.

Indeed, at certain times of the year stoves are a bigger item of interest to thousands of people than Wilson or Harding or Lansing or Protective Tariff, or Bolshevism.

Often a hardware merchant knows more about what people are thinking of than the art critic or newspaper editor.

There is a logic, then, which can be translated into dollars and cents in the motive back of the window exhibit of stoves shown in the accompanying illustration.

This window display was arranged by Otto J. Gress for Bunting Hardware Company, Kansas City, Missouri. It shows a few of the hundred and fifty-seven

Tinware Company Is Chartered.

The University Tinware Manufacturing Company, Philadelphia, Pennsylvania, has obtained charter of incorporation. Its capital stock is \$100,000. The incorporators are I. A. Roseman, 1021 North Front Street, Philadelphia, David N. Scher, and R. Scher. The company will manufacture tin utensils.

Gets Good Position Through Ad in AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

You may discontinue my ad in your classified as I have secured a good position through its columns. Thanking you for your courtesy, I remain

Yours truly,

F. W. JOHNS,

Barberton, Ohio, May 22, 1921.

Bills unpaid are cogs knocked out of the wheel of business.

Chandler Says That Circular Letter Is Strong Link in Successful Selling Campaign.

Specific Instances Cited of Sales Made by Use of Well Written Letters to Prospects.

In the March 5th and 19th issue of AMERICAN ARTISAN AND HARDWARE RECORD, reference was made to the methods employed by the Chandler Hardware Company, Sylvania, Ohio, through which they built up an annual business of over \$200,000 in a town of less than 2,000 inhabitants located only eleven miles from Toledo.

THE CHANDLER HARDWARE COMPANY HARDWARE AND IMPLEMENTS

SYLVANIA, OHIO
August 12, 1920.

Dear Sir:

You will be interested to know that we have a salesman to take care of your territory regularly.

Mr. Arthur C. Gess of Lambertville, who has been driving our delivery truck since the first part of July, has been promoted to a place on our sales force and given your territory to look after.

He is a man who has lived on a farm for years and knows all about farm life and what the farmer needs. He is well posted on all of our implements. He can give you information and prices on any farm equipment that you may want.

Right here we want to say that we appreciated the business you gave us through Mr. Leatherman. Mr. Gess will call on you from time to time and we hope that you will give him the same consideration.

We want him to call and get acquainted with all of our customers in your territory just as soon as he can. He will call on you in the near future.

Of course, it is impossible to see all of you at once. But if there is anything that you are in need of right away, we would appreciate it if you would call us on the phone at our expense or mail the enclosed card. We will then have Mr. Gess see you immediately.

We shall be pleased to hear from you at any time.

Yours very truly,

A. R. CHANDLER

BY R. A. Chandler.

Figure 1.—Letter of Introduction for New Outside Salesman.

We publish herewith four circular letters which they used in 1920 with the suggestion that those of our subscribers who have not made use of this excellent advertising medium should profit by this example.

Figure 1 is an introductory letter for one of the Company's five "outside" salesmen who was promoted to the position from the job of driving one of their delivery trucks.

Note the friendly tone and the "point of contact" in the third paragraph—also the offer of quick service on telephone calls.

In letter Number 2 the Company invited 150 housewives to witness an actual "family washing" which was done with one of the washing machines the sales of which they were promoting.

One hundred and fifty letters were sent out and twelve sales were made as a result—in the week before Christmas, 1920.

Letter Number 3 told about the Conservo Cooker which is a very practical appliance, both for cooking and canning.

Here again the chief selling argument is the freedom from worry and work which is secured by the use of the Conservo Cooker. Surely a woman who has lots of canning to do will be interested in such an apparatus.

One hundred and fifty of these letters brought twelve active sales.

With each of these letters there was included one or more folders furnished by the manufacturer of the particular article to which the letter referred.

The fourth letter gives a good indication of the spirit which governs the management of the Chandler Hardware Company.

For some reason the farmers around Sylvania quit raising potatoes in large quantities, and so Chandler's found themselves with 21 potato diggers on hand for which there was no local demand.

Did they put them on the scrap heap, or did they let them stay in the warehouse to rust and eat up profits?

Not so you could notice it.

THE CHANDLER HARDWARE COMPANY HARDWARE AND IMPLEMENTS

SYLVANIA, OHIO
Dec. 15, 1920

Dear Madam:

Do you know that even the most ordinary electric washer does away with that washday backache and its accompaniment of parboiled hands and softened finger-nails?

Most American women take the labor saving element of an electric washing machine for granted and interest themselves on how long a certain machine will last.

They want to know how well it washes their dirtiest clothes, how gently it handles their daintiest fabrics, how easy it is to run, and how cheaply it operates.

The easiest way of convincing yourself that the One-Way Cylinder assures a long lived machine, that it washes both gently and thoroughly and that the Crystal is easy and economical to run is to see an actual demonstration.

Next Saturday December 18th, we are having just such a demonstration at our store.

Come in and watch us do a family washing.

Yours very truly,

A. R. CHANDLER

BY R.A.Chandler.

Figure 2.—One Hundred and Fifty Copies of this Letter Resulted in Sale of Twelve Washing Machines.

Read the letter.

They said to themselves: "Up in Southern Michigan there are lots of farmers who raise potatoes as a sales crop. If we can get in touch with implement dealers in that territory we will be able to dispose of these potato diggers and get our money out of them."

So they write to some of the bankers in that section,

with the result that enough names of prospects were secured to sell twenty.

Isn't that fairly good evidence that intelligent use

L. B. CHANDLER, PRES.

L. C. HUBBARD, VICE PRES.

R. A. CHANDLER, SECT. & TREAS.

THE CHANDLER HARDWARE COMPANY

HARDWARE AND IMPLEMENTS

SYLVANIA, OHIO

Sept. 3, 1920.

Dear Madam:

Are you going to do quite an amount of canning this month?

If you are, we would like to show you our new Conserve Cookers which we have just received.

The reason that we think you will be interested in a Cooker like the Conserve is that it really does your cooking and canning better with much less worry and work.

The principle is cooking by heat and steam pressure. In this way the natural juices and flavors are retained to a greater extent than with any other method. You save Fuel, Food, and Time—All worth money to you.

Anything for your meals can be cooked in the Conserve. One burner of the stove and enough heat to boil the water in the copper tank is all that is necessary. Its capacity is fourteen quart cans.

We have been selling a great many of these cookers this season and can tell you of several who are now using them with great success.

You can pay for it on easy monthly or weekly payments.

May we be permitted to enter your order?

Yours very truly,

A. R. CHANDLER

BY R. A. Chandler.

Figure 3.—This Letter Made the Canning Season More Pleasant for Twelve Housewives.

of a bit of aggressiveness and a willingness to go after business will bring returns?

A typewriting machine, somebody to operate it and the proper use of your time will result in enough

L. B. CHANDLER, PRES.

L. C. HUBBARD, VICE PRES.

R. A. CHANDLER, SECT. & TREAS.

THE CHANDLER HARDWARE COMPANY

HARDWARE AND IMPLEMENTS

SYLVANIA, OHIO

July 13, 1920.

Mr. Arthur Walton, Cashier,
Citizens Bank,
Sturgis, Mich.

Dear Sir:

We wish that you would give us the names of all the farm implement dealers in your city.

We have on hand in excellent condition here at Sylvania, a stock of twenty one Hoover Potato Diggers which we have been carrying for four years. The reason that we are unable to move this stock is that this section of Ohio has ceased to be a potato growing territory.

The United States Department of Agriculture and the Experiment Station of your State have told me that a considerable acreage of potatoes is being raised in your section.

We want to write every implement dealer in your city and tell him what we have.

A stamped and addressed envelope is enclosed for your reply.

May we not have the pleasure of hearing from you soon?

Yours very truly,

A. R. CHANDLER

BY R. A. Chandler.

Figure 4.—Enough Prospects Were Secured by this Letter to Dispose of Twenty Potato Diggers.

additional sales to make you wonder why you did not start going after trade in that way long before 1921.

It is the wise merchant who has seen to it that he is perfectly safe in placing responsibility on those in his employ.

He Who Seeks Shall Find Considerable and Profitable Business Now.

If you have weathered the storm of the past seven months you can take courage! At this stage of depression, the main problem is selling. . . . Now is the time to use that reserve fund which was set aside during the fat years! Later we shall come to the point where you should increase your plant, but this summer—increase your advertising! Take the aggressive course. There will be considerable business; the firm which goes after it will be the one to get it.—Roger W. Babson.

Is Incorporated to Make Cutlery.

The Squire Products Company, New York City, has been incorporated to manufacture cutlery and similar commodities. Its capital stock is \$35,000. The incorporators are H. C. Quinby, 165 Broadway, New York City, F. D. Reid, and J. H. Kavanaugh.

Charles M. Jarvis Reaches End of Life's Journey.

After an illness lasting for about a year, Charles M. Jarvis, a former head of the American Hardware Corporation, New Britain, Connecticut, died May 21st in Atlantic City, New Jersey.

He was born in Deposit, Delaware County, New York, April 16, 1856, and received his early education in schools of Binghamton, New York, and entered Sheffield Scientific School of Yale, from which he was graduated as a civil engineer in 1877.

In May of 1900 the Berlin Iron Bridge Company of Berlin, Connecticut, with twenty-six other leading concerns in the same line combined into the American Bridge Company and Mr. Jarvis became one of the vice-presidents under the merger. He severed his connection to become associated with P. and F. Corbin of New Britain in 1902 and became a vice-president of the company, succeeding to the position of the late Andrew Corbin.

He was largely responsible for the merger of the Corbin and Russell & Erwin plants, old time rivals, into the American Hardware Corporation in 1902.

He became first vice-president of the corporation and at the death of Philip Corbin in 1910 was elected its president.

He remained at the head of the corporation until May, 1913, when he resigned unexpectedly and, after a few months, became associated with the Connecticut Computing Machine Company of New Haven.

For many years he was a director of the Phoenix Mutual Life Insurance Company, Colt's Patent Fire Arms Manufacturing Company, and the Hartford Steam Boiler and Inspection Company of New Britain, and the Savings Bank of New Britain and second vice-president of the New Britain Trust Company. He was at one time vice-president of the National Association of Manufacturers.

He leaves his wife, and a daughter, Mrs. Grace Schaffler, the wife of Henry P. Schaffler of Brooklyn, New York.

Noted Hardware Dealer Passes Away.

A neatly printed memento, with photogravure on the cover, has just been issued by the New York State Retail Hardware Association in memory of Francis Burton Boyce, a charter member of the Association and its president in 1914 and 1915, who passed away May 16, 1921, in Wellsville, New York.

Mr. Boyce was born at Whitesville, New York, July 7th, 1861. He moved to Wellsville in 1884 and entered the employ of L. C. Hakes, a hardware mer-



Francis B. Boyce.

chant; later he became a partner and upon the death of Mr. Hakes, Mr. Boyce purchased the business, which he conducted successfully for many years. His nephew, Rockwell C. Boyce, became a partner in 1913. The business was incorporated in February, 1921.

Secretary of the New York State Retail Hardware Association, John B. Foley, who issued the memento at the direction of the president of the organization, says of Mr. Boyce: "A prudent adviser, of exemplary life, actuated always by high ideals, a true friend in private and public affairs, seeking constantly the advancement of younger persons, modest to the point of self-effacement—these were characteristics of our friend."

Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

34939.—A firm in Denmark desires to secure an agency for the sale of files and rasps of all kinds. Quotations should be given f. o. b. New York, or c. i. f. Stockholm.

34955.—A hardware company in Canada desires to purchase revolving nail bins. Quotations should be given f. o. b. port of shipment. Payment to be in cash. Shipment may be made all rail. Reference.

Coming Conventions.

Mississippi Retail Hardware and Implement Association, Great Southern Hotel, Gulfport, Mississippi, June 14, 15, and 16, 1921. E. R. Gross, Secretary, Agricultural College, Mississippi.

American Society of Heating and Ventilating Engineers, Cleveland, Ohio, June 14, 15, 16 and 17, 1921. C. W. Obert, Secretary, 29 West 39th Street, New York City.

National Association of Sheet Metal Contractors, Fort Pitt Hotel, Pittsburgh, Pennsylvania, June 14, 15, 16, and 17, 1921. Edwin L. Seabrook, Secretary, 261 South Fourth Street Philadelphia, Pennsylvania.

National Retail Hardware Association, Louisville, Kentucky, June 20, 21, 22, and 23, 1921. Herbert P. Sheets, Secretary, Argos, Indiana.

Sheet Metal Contractors' Association of Ohio, Hotel Gibbons, Dayton, Ohio, July 19, 20, and 21, 1920. William J. Kaiser, Secretary, 123 East Chestnut Street, Columbus, Ohio.

Michigan Sheet Metal Contractors' Association Annual Outing, Grand Rapids, Michigan, July 29 and 30, 1921. Frank E. Ederle, Secretary, 1121 Franklin street, S. E., Grand Rapids, Michigan.

Kentucky Hardware and Implement Association, Jefferson County Armory, Louisville, Kentucky, January 24, 25, 26, and 27, 1922. J. M. Stone, Secretary-Treasurer, Sturgis, Kentucky.

Retail Hardware Doings.

Indiana.

The Boetticher-Kellogg Company of Evansville will not move from their location on First Street to their new location on Fulton Avenue and Water Street until June 1, 1922.

The Summers Hardware and Implement Store at Tipton has been sold to W. Fogle of Lebanon.

Michigan.

The reconstructed Ullrich Hardware store at Mt. Clement is now open for business. The rebuilt store, following the disastrous fire, will be modern to the last detail.

Minnesota.

Arthur E. Bublitz has opened a hardware store in Glencoe. F. F. Uhlhorn has purchased the hardware store and stock of goods in St. James from F. J. Nash and Company.

Mr. Seeley of Barrett has started a hardware store in Forada.

Henry Georgen has sold the General Merchandise and Hardware Store owned by him to William Crown and Richard Larson at St. Hilaire.

M. O. Syverson has purchased the hardware and implement stocks recently sold by Syverson Brothers to Syver and Casper Syverson at Wanamingo and is now sole owner of the business.

Missouri.

R. L. Gooch of Mexico has purchased the G. W. Robertson and Son hardware store on North Jefferson Street.

New York.

C. A. Layman has sold his hardware business to his nephew, W. A. Layman, of Prattsville.

Treman, King & Company's hardware store at Ithaca was destroyed by fire with a loss estimated at \$350,000.

North Dakota.

The Bacon and Burr Hardware Store has been destroyed by fire, at Granville.

Ohio.

The hardware store of Armatage and Boyd at Attica has been sold to Martin and Weinland of McComb.

Oklahoma.

The Yocum Hardware store is now under the management of Earl Moore, as Mr. Yocum has opened his new hardware store in Liberal.

South Dakota.

B. J. Terhurne has reopened his hardware store at Brentford.

Wisconsin.

Outagamie Hardware Company of Appleton has been incorporated with a capital of \$25,000 by Harry L. Jackson, John Rechner and Henry M. Rossmeissl, all of Appleton.

Oestreich Brothers have moved their hardware stock and tin shop to their new and more spacious location in the Odd-fellow building on the corner of South Pearl and South Water Streets at Appleton.

Schelle's new hardware store at Waterford is nearly completed.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.

Here is the right way to talk to the people:

The Riverside Hardware Company knows that an advertisement is a selling talk.

Therefore, in the copy which is reproduced herewith from the

of the Riverside Hardware Company.

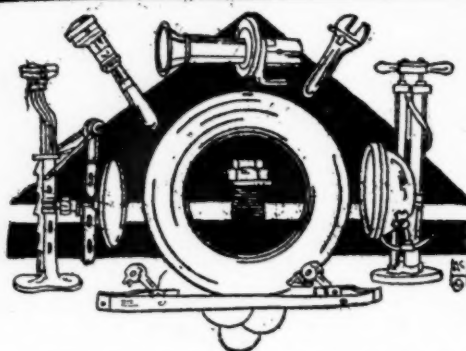
Plainly, within the limits of this sort of advertisement, it is not practical to mention prices of all the accessories.

But, a sufficiently assuring idea of

Shaefer Hardware Company is not specific enough.

That is to say, there is nothing in the wording of the advertisement

HOW ABOUT AUTO HARDWARE— Mr. Motorist?



If you enjoy comfort—convenience—and security, and take pride in the appearance of your motorcar, you can get a lot of satisfaction by choosing accessories here. Much thought and care has been given to selecting properly designed, durable and nicely finished car accessories—only kinds that can be sold with assurance of satisfaction, and in addition, prices have been kept down to a minimum. Tool Sets—Vulcanizing Outfits—Tire Tools—Mirrors—Spark Plugs—Jacks—Polishes are a few of the articles which we can supply at a saving to you.

**SOCKET WRENCH SETS IN NEAT
FLEXIBLE CASES—5 SOCKETS AND
HANDLE—\$2.00
AUTO JACKS—\$1.50 TO \$5.00**

Riverside Hardware Co.
H. WOODWARD
W. B. IRWIN
781 MAIN ST.
"ON THE SUNSET
SIDE"

Riverside Enterprise, Riverside, California, the Company speaks to the motorist in direct style.

It places most of the weight upon the pronoun of the second person.

That is to say, instead of telling the motorist all about the "we" side of the business and blowing loud and strident horns in praise of the company, the Riverside Hardware Company gives prominence to the comfort, convenience, and security of the motorist, of his pride in appearance of his car and of the satisfaction he will get by choosing his automobile hardware in the shop

prices is given by quoting figures on sets of socket wrenches and range of prices on auto jacks.

* * *

Here is an advertisement which appeared in the *Ypsilanti Press*, Ypsilanti, Michigan. It has a definite message as regards builders' hardware.

The Shaefer Hardware Company advises its patrons to begin now to prepare plans for early spring building and explains its willingness to assist them in the task.

But, although the message itself is definite, its connection with the

which would persuade the reader to give his business to the Shaefer Hardware Company in preference to any other hardware company.

No reasons are set forth why the prospective customer should deal with the Shaefer Hardware Company.

It might be said, of course, that the sentence, "We will be glad to assist you," is at least one reason in that direction.

If it is a reason, it lacks conclusiveness because every prospective buyer knows that any dealer is glad to assist him in plans which mean the purchase of goods from that dealer.

Typographically, this advertisement is well constructed but it is weak from the point of view of definite selling power.

Check Up Your Advertising from Time to Time.

It will pay any advertiser to check up his advertising every six months or so to make sure that he is not getting away from the fundamental idea that represents his best selling appeal.

For after all, it is nearly always the idea and not the interpretation that moves the merchandise.

Builder's Hardware

Sure, winter months are still with us, but opening of spring is not far away. Commence now to prepare plans for early spring building. We will be glad to assist you.

Shaefer Hardware Co.

The Winchester Stores
23 Huron St. 114 Michigan Ave.

Warm Air Heating and Ventilating

*Better Installations. How to Sell More Warm Air Heaters.
Reports of Progress in Warm Air Heater Research Work.
Ventilating Factories, Garages, Theaters, and Houses.*

SUMMER MEETING OF HEATING AND VENTILATING SOCIETY.

The list of sessions and subjects which make up the program for the semi-annual meeting of the American Society of Heating and Ventilating Engineers constitutes a strong inducement for attendance.

The sessions are to be held June 14, 15, 16, and 17, 1921, in Cleveland, Ohio. The following is the program which has been arranged for the meeting:

Tuesday, June 14, 1921.

2 p. m.

Welcome Address.

Response by President.

Annual Reports of Chapters:

Illinois.

Kansas City.

Massachusetts.

Michigan.

Minnesota.

New York.

Western New York.

Ohio.

Eastern Pennsylvania.

Pittsburgh.

St. Louis.

Report of Committee on Chapters.

Report of Committee on Code for Testing Heating Systems.

Report of Committee on Code for Testing Low-Pressure Heating Boilers.

Report of Committee on Increase of Membership.

Report of Committee on Model Chimney Ordinance.

Report of Committee on Revision of Constitution.

Wednesday, June 15, 1921.

9 a. m.

Air Conditioning Session:

Paper: Resistance of Materials to the Flow of Air, by A. E. Stacey, Jr.

Paper: Drying as an Air-Conditioning Problem, by A. W. Lissauer.

Paper: Rates of Drying, by Ray Power, United States Department of Agriculture.

8 p. m.

Dinner and Dance at the Cleveland Yacht Club.

Thursday, June 16, 1921.

10:00 a. m.

Heating Session:

Paper: By-Product Coke Ovens and Their Relation to Our Fuel Supply, by E. B. Elliott.

Paper: Hot-Water Heating in Asia Bank, by H. L. Alt.

Paper: Circulation Problems in Hot-Water Heating, by A. W. Luck.

Paper: Fractional Distribution in Two-Pipe Gravity Steam-Heating Systems, by J. A. Donnelly.

Paper: The Application of Gas to Space Heating, by Thompson King.

Thursday, June 16, 1921.

2:00 p. m.

Ventilation Session:

Paper: Some Developments in Centrifugal Fan Design, by F. W. Bailey and A. A. Cricqui.

Paper: Plea for Better Distribution in Ventilation, by J. R. McColl.

Paper: Ventilation in Metal Mines, by D. Harrington, United States Bureau of Mines.

Friday, June 17, 1921.

10:00 a. m.

Research Session:

Report of Committee on Research.

Paper: Apparatus for Testing Insulating Materials, by F. B. Rowley.

Paper: Ventilation Tests of School Rooms at Minneapolis, by L. A. Scipio.

Paper: Chimneys for House-Heating Boilers, by L. A. Scipio.

Paper: Dust Standards, by S. H. Katz.

Paper: Commentary by L. A. Scipio, on Report on Heat Transmission, Corkboard and Air Spaces, by A. J. Wood and E. F. Grundhofer.

Smith-Gray Heater Company Enlarges Its Plant.

The merger of the warm air heater business of Charles Smith, Chicago, Illinois, with the Gray Iron Foundry Company, Muskegon, Michigan, was announced on page 29 of the January 8, 1921, issue of AMERICAN ARTISAN AND HARDWARE RECORD. The consolidation is known as the Smith-Gray Heater Company, with Charles Smith as president, G. H. Reed, vice-president, E. L. Meier, treasurer, and W. A. Meier, secretary.

All production will be carried on in Muskegon, Michigan, where the Smith-Gray Heater Company is increasing the facilities of its plant.

The complete Smith line of furnaces and heating systems include a number of varieties which have been distributed throughout this section of the country, it is stated. More than 50,000 of the water heaters are now in use.

The Alamo school heater, having a sectional fire pot easy to remove and easy to install, has resulted in it becoming popular with the school trade, the company officers say.

This is especially true of sections where it is not convenient to obtain highly skilled mechanics or engineers to supervise the installation. Several of these heaters have recently been sold to the government for schools in Indiana and other northern states.

Adds New Pipeless Warm Air Heater to "Front Rank" Line.

In order to enable its dealers to get all their warm air heaters, both steel and cast iron, from the same source and thus obtain the benefit of the quantity discount, the Haynes-Langenberg Manufacturing Company, St. Louis, Missouri, has added the "Rainbow" pipeless warm air heater to its "Front Rank" line of furnaces.

The Company announces that hereafter the "Front Rank" will not be made in the old pipeless style. The "Rainbow" and "Winner," will be the only double casing pipeless which it will manufacture.

In order to assist the dealer, the Haynes-Langenberg Manufacturing Company has prepared some very convincing circulars to be mailed with the dealer's imprint to his prospective customers.

These circulars state plainly the conditions in which the pipeless warm air heater gives the best service. They are written in simple, sincere, and persuasive language.

Gives Method for Figuring Air Leakage at Windows and Doors.

Significant figures showing the importance of air leakage into buildings at windows and doors were given recently by A. C. Willard, Professor of Heating and Ventilation and head of the Department of Mechanical Engineering at the University of Illinois, in an address before the Smoke Prevention Association. Professor Willard said:

"With a wind velocity of 13 to 15 miles per hour the leakage of air through the cracks around ordinary doors and windows has been found by test to amount to approximately 0.15 cubic feet of air per minute per lineal foot of crack for each mile velocity per hour. This value is based on a clearance of 1/16-inch between the moving sash or door and the frame in which it slides or moves, and the wind velocity referred to may be regarded as an average value for the whole United States during the heating season.

"This cold air leakage, or 'infiltration,' as it is usually called, takes place on the windward sides of a building, and an equivalent amount of air passes out on the leeward side of the building. It will be apparent that the infiltration will, therefore, be proportioned to the lineal feet of crack on the windward side of the building. Moreover, for window or door cracks wider than 1/16-inch, or wind velocities above 15 miles per hour the leakage per mile will be more than 0.15 cubic feet per lineal foot of crack for each mile velocity per hour. This is a much more rational basis for calculating the natural air leakage into buildings than the usual method of assuming a certain number of air changes in each room per hour.

"As an example, we may take the case of an office building or hotel with 500 windows in the front elevation. Such buildings are usually heated to 70 degrees Fahrenheit and in ordinary construction the windows are 4 feet by 7 feet, double hung, with about 1/16-inch crack. Hence, each window, including the meeting rail, offers 26 lineal feet of crackage. On a zero day with a wind velocity of 15 miles per hour, the volume of air leaking into the building per hour is: $0.15 \times 15 \times 60 \times 500 \times 26 = 1,755,000$ cubic feet per hour. As each cubic foot of air weighs 0.086 pounds at 0 degree Fahrenheit the weight of air entering at the windows per hour is: $1,755,000 \times 0.086 = 150,930$ pounds per hour. Since each pound of this air must be raised from 0 degree to 70 degrees Fahrenheit, the heating system must supply enough heat in the steam or water sent to the radiators to do this heating. It takes 0.24 British Thermal Units to raise 1 pound of air 1 degree Fahrenheit. Heat required per hour for taking care of infiltration is:

$150,930 \times 0.24 \times (70-0) = 2,535,264$ British Thermal Units per hour.

"Expressed in coal burned in the boilers with 60% efficiency the air heating load on the boiler plant is:

$2,535,264 \div (0.60 \times 12,000) = 352$ pounds of coal per hour.

"The total heat value of 1 pound of average coal is about 12,000 British Thermal Units of which only 50% to 60% is put into the steam or water in the boiler. In a 24-hour day the coal required for heating the air leaking into this building would amount to 8,448 pounds or 4.25 tons. If the wind velocity should increase

100% so that it becomes 30 miles per hour, the infiltration will about double and the coal required per day would amount to over 8 tons to heat this air and still keep the rooms at 70 degrees on a zero day.

"A similar calculation may be made to determine how much coal is required for heating air when the air is supplied by fans for positive ventilation, such as is necessary in school-house work. As an example in this case, take a ten-room school with 50 pupils per room who must be supplied with 30 cubic feet of fresh air per minute, as required by State law. The heat necessary per hour on a zero day is:

$50 \times 30 \times 60 \times 10 \times 0.24 \times 0.075 \times (70-0) = 1,134,000$ British Thermal Units.

"The weight of 1 cubic foot of air at 70 degrees is 0.075 pounds and the air is measured at 70 degrees Fahrenheit. This amounts to 158 pounds coal per hour or about two tons per day (24 hours) in addition to the heating load on a zero day."

Heating and Ventilating Book Contains Numerous Helps.

The new fourth edition of *Hoffman's Handbook for Heating and Ventilating Engineers*, just issued, contains more than 60 pages of reference tables which are of great assistance to any man who designs, installs, or operates heating and ventilating plants.

The author, James D. Hoffman, M. E., is professor of practical mechanics and director of the practical mechanics laboratories of Purdue University and ex-president of the American Society of Heating and Ventilating Engineers.

The volume supplies the principles, rules, formulae, and tabulated data to which the engineer and installer needs to refer constantly.

Copies of this helpful handbook can be had for \$4.50, postage prepaid, from the Book Department AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois.

Is a Complete Warm Air Heater Supply Book.

Profusely illustrated and containing conveniently arranged tables of sizes and prices, the new No. 41 catalog of Handy Furnace Pipe and Fittings, just issued by F. Meyer & Brother Company, Peoria, Illinois, is a complete book of warm air heater supplies.

This catalog is to be distributed to the trade generally and the discount sheet which applies to the prices quoted in its pages may be obtained by writing to F. Meyer & Brother Company.

The story of the Handy Furnace Pipe is told in the first part of the catalog and a brief summary is given of one of the service features of the Company.

This consists of estimating installation jobs for customers free of any charge. "Many furnace men," says the Company, "find it irksome to 'figger' jobs and they always fear that they will overlook some item of cost. To these our free estimating service is of special advantage."

Copies of the No. 41 catalog and discount sheet can be secured by addressing F. Meyer & Brother Company, Peoria, Illinois.

Installs Warm Air Heating Plant in High School.

The accompanying illustration shows a plan of the warm air heating and ventilating system installed in a large high school in Pineville, Missouri.

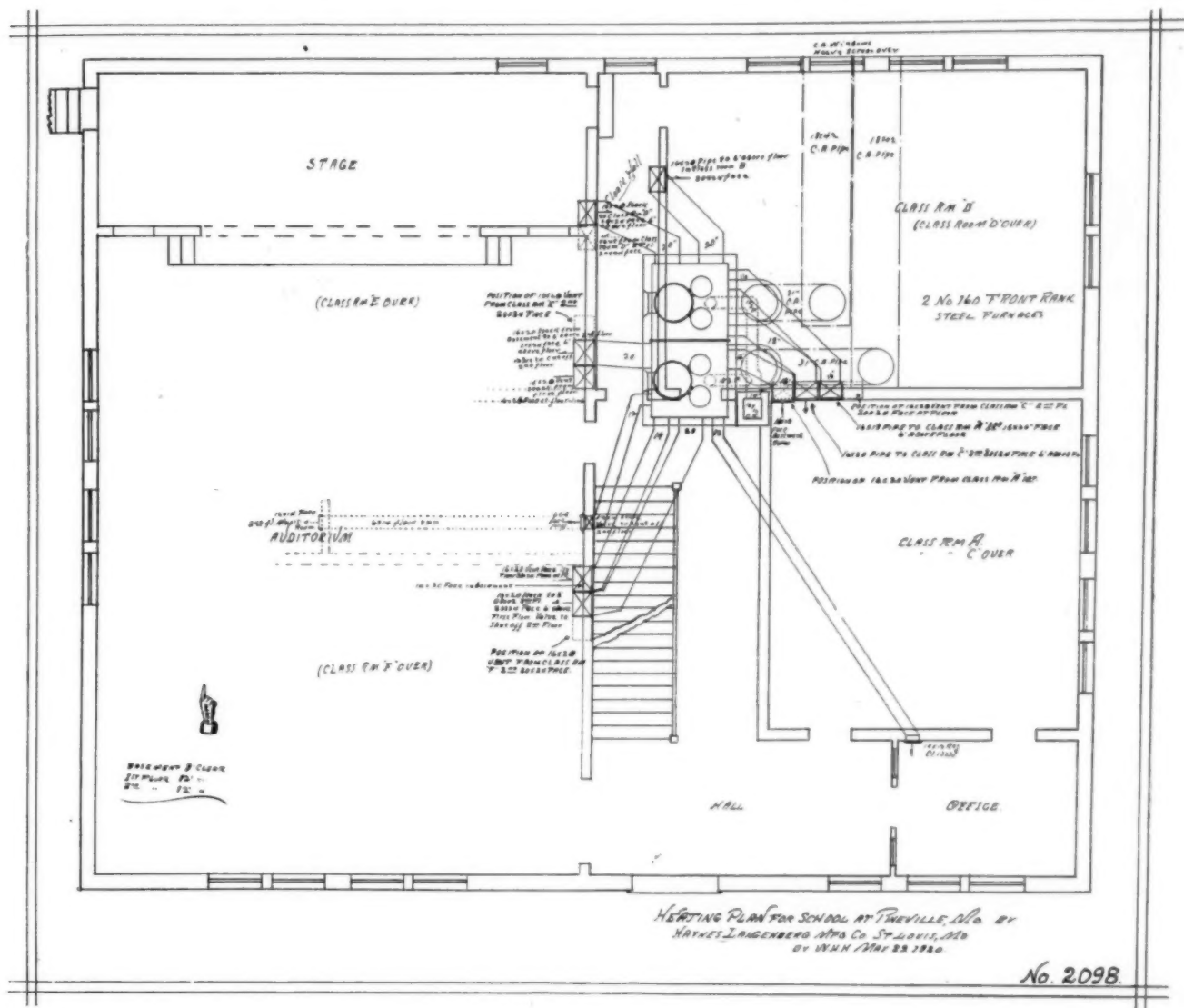
It is one of the largest buildings that we know of which is heated by the straight gravity system, but as the results have been very satisfactory, we are glad to submit it for the benefit of the trade.

This installation was planned and supervised by Wilson H. Halley, Heating Engineer with the Haynes-

from there to short round pipes.

"The two warm air furnaces are encased in brick and a heavy steel diaphragm placed between the heaters inside of the brick casing.

"In the heating of schools or other buildings not constantly heated, experience prompts us to figure about 30 per cent more capacity in the heat ducts than would be required otherwise. Under the most favorable conditions, warm air furnaces in schools are subjected to the hardest kind of treatment. Sometimes they have a janitor but usually everybody that feels a little chilly goes down into the furnace room and piles



Plan for Gravity System of Warm Air Heating for High School Building at Pineville, Missouri.

Langenberg Manufacturing Company, St. Louis, Missouri, who has furnished the following data:

The entire east side of the first floor consists of a dramatic hall in which heat is not required during the time the school is in session. It was, therefore, possible to use the same stacks to heat this auditorium and the school rooms on the second floor. These stacks are provided with swinging dampers operated from the hall which deflects the heat either into the auditorium or into the school rooms.

"Each room has a separate register six feet above the floor line and each is provided with a ventilating shaft to draw off the foul air and also to complete the necessary circulation. The fresh air is drawn directly from outside through screens leading to flat pipes and

more coal on the fire. Therefore, our plans for school buildings always specify a system large enough, so that during 90 per cent of the winter, a little fire will go a long ways. The lowest average temperature in this part of the country is about 15 degrees above zero.

"There were no sheet metal or furnace men in this town, and our nearest dealer did not care to tackle the job, so our own installers were sent from St. Louis, to do the work. This gives us an unusually good opportunity to learn just how well the plant is working and while the winter just past can hardly be said to be an extreme test, the fact that the rooms were heated evenly, together with the fact that we know it was large enough to take care of the extreme weather, makes us sure that it has been a success."

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

PATTERNS FOR RANGE CANOPY.

By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

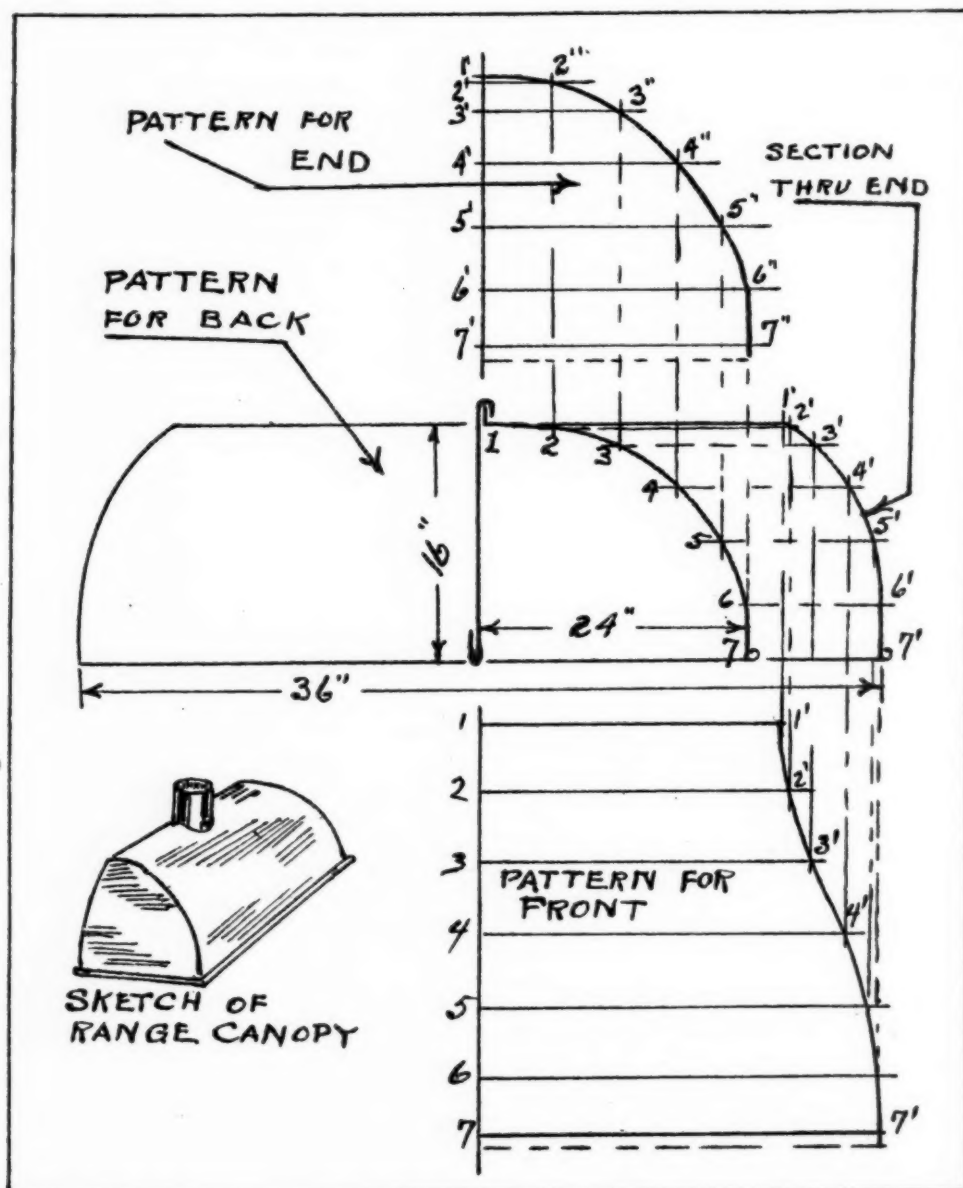
Answering the inquiry of Samuel T. Hedges of Rochester, Indiana, for a layout of a range hood, the following may give the development:

Not having any design of hood to go by, the en-

Next draw a section through end as 1'-7' to any desired curvature, making the sweep somewhat less than the sweep in section through front.

Now from each point as 1-2-3-4, etc., of section through front, project horizontal lines into the section through end, and this will give points 2'-3'-4', etc.

Observe this will make a butt miter and that the section through end is nothing more or less than the cut on the ends of the pattern for back.



Patterns for Range Canopy.

closed sketch will show what we are making in this case.

The length and width and the height can all be made to suit measurements of the job.

First draw the section through front as 1-7 with a 24 inch projection. Divide this in equal parts as shown.

To set out the pattern for front, observe we pick the girth from section through front, by picking spaces 1-2-3-4, etc., to 7 and set off below as 1-7.

Draw stretchout lines from these points and then from each point as 1'-2'-3'-4', etc., of section through end, drop lines thereby intersecting lines of similar number.

Through these points, trace the uniform curve and you have the half pattern for front.

Observe this accounts for the full girth required to span the front and cuts the miters on the ends to suit the curves shown.

To set out the pattern for end pieces, pick the girth from the section through end, as 1'-2'-3'-4', etc., and set off above elevation.

Draw stretchout lines and then from each point in the section through front, erect lines crossing those in pattern of similar number.

This gives points 2"-3"-4"-5", etc. Sketch a line through these intersections and you have the pattern. Observe the width of this end pattern must be equal to the section through front, while it must have a length of the curve in the section through end.

By reasoning these things out in this way, the procedure is quite clear and it saves developing a plan with the change of profile. Laps for seams must be allowed extra and all joints, also for wire edge.

Indiana Auxiliary Organizes a Baseball Team.

E. W. Norman, President Jobbers' and Salesmen's Auxiliary to the Indiana Sheet Metal Contractors' Association, announces the Auxiliary's new baseball club to be known as the Rivets. Roland Wilcox of Standard Metal Company as captain of the club has surrounded himself with a bunch of very speedy players.

Beaman, a "Front Ranker," is on the team holding down first base; Shea of Tanner & Company along with Griffith and Wright of the same concern are signed up for important positions.

Wilkening and Buxton of the Standard Metal Company, old timers in the game, will be among the excellent lineup of batteries.

Shorty Epperson of the Stark Rolling Mills, too short for any other position, is slated for short stop. Richards of Follansbee Brothers will probably play left field. He is said to be very clever with the "stick" and is referred to as a second Babe Ruth.

On account of the bunch of heavy hitters on the team Brookside Park, Indianapolis, has been secured for their first game. Paul Jordan, a ball punisher of considerable reputation, is among the substitutes.

Captain Wilcox is to be complimented on this aggregation of top notchers. It is hardly to be expected to keep this line-up the entire season.

Officers of the Auxiliary have issued orders that no professional ball club managers or any of their representatives will be permitted in the Park during the progress of the first game, as they do not want to take the chance of some of their players being signed up by the large leagues.

Strahlendorf, the Peerless "go get 'er," will be on the bench ready to take the place of any player who shows signs of weakening. The first game will be played June 4th, Brookside Park, at 3 p. m., admission free to all Sheet Metal Contractors, Jobbers and Salesmen.

The Indianapolis Sheet Metal Contractors' crack club, known as the Snips, under the leadership of Captain W. S. Waters, will be the Rivets' first victim.

Captain Waters, for some unknown reason, will not give out the line-up of his players but it is intimated that he has induced several professional baseball players to open up small shops about the city in order to get their services for this opening game.

The Indianapolis Police Department have promised to coöperate in taking care of the crowds and keeping order during this initial game.

The Rivets are open for engagements with any Sheet Metal Contractors in the State of Indiana.

Advocates More Diversified Use of Zinc.

In an address delivered at the recent convention of the American Zinc Institute, Mr. W. Homer Hendricks, of the New Jersey Zinc Company said that still the most pressing problem confronting the zinc industry was that of increasing the use of zinc.

Mr. Hendricks spoke in part as follows:

"We have several lines of attack open to us along which we should strive for this end.

"1. Re-establish the old markets at the earliest possible date. This I believe most of us are doing now. The steps necessary to bring this situation about are not entirely under our control.

"2. Increase the consumption of zinc in the present consuming industries.

"As the industries now dormant increase in activity, let us work closer with them with regard to their individual problems, so as to make the results obtained with zinc not only as good as they were but better than ever.

"As this market develops we should, by means of service, real service to the consumer, not only place as much zinc as we did before but actually increase the amount.

"Mere substitution for some other ingredient will be found unsound and the progress made is of a negative quantity as the reaction from such a position will result in a decreased rather than an increased use.

"3. Location of new uses for present products.

"Are we always careful to know that the products offered, when we try to develop new uses, will satisfy the requirements? Are we always careful of the reputation of zinc?

"Do not try to force it into places where it is not suitable, as the unfavorable reputation thus obtained may prove more costly to overthrow than the apparent profit from the first transaction. There may have been a profit to the particular transaction in such a case, but the industry has lost.

"4. Development of new products for present needs.

"We may find it necessary to increase the purity of present products for some purposes. For others, probably a cheaper product of less purity would be more acceptable and equally useful.

"5. Develop new products and create new needs.

"Only a few suggestions. The zinc alloy field is almost untouched. Brass is an alloy of zinc and copper, and has found a wide and useful application, but it is practically the only zinc rich alloy which is used on a large tonnage basis. Can it be possible that zinc has only one useful alloy and that we must be content to let it rest in this position?"

Pittsburgh Convention Committee Issues Message to Delegates.

The Convention Committee of the Sheet Metal Contractors' Association of Pittsburgh and Vicinity is making every effort to assure the success of the annual convention of the National Association of Sheet Metal Contractors which takes place June 14, 15, 16, and 17, 1921, in Fort Pitt Hotel, Pittsburgh, Pennsylvania. The following message is sent out by the Committee:

"The Pittsburgh Convention Committee realizes that most people visiting our city see very little of it. They

lunch will be served, and then everybody will take in the boat ride down the Ohio and up the beautiful Monongahela Valley with music and dancing, at night. In fact, there will not be an idle minute from start to finish of your stay in our city.

"Our Souvenir Program for the Convention is a beauty and strictly sheet metal. The front cover was specially designed by Captain R. B. Lawrence, of the American Ventilating Company, for this Convention, and represents a very handsome sheet metal entrance, the program and advertising matter to be alternated with halftone cuts of points of interest in and about Pittsburgh, with short historical sketches.

"The halftone cuts and historical sketches were furnished through the courtesy of our Chamber of Commerce, one of the greatest organizations of its kind in the country. This is something you will keep and take home with you.

"The Pittsburgh Local extends to all sheet metal and furnace men a cordial invitation to spend a pleasant week with us. Come, the latch string is out for you."

The schedule of the sessions of the convention is as follows:

Tuesday, June 14, 1921.

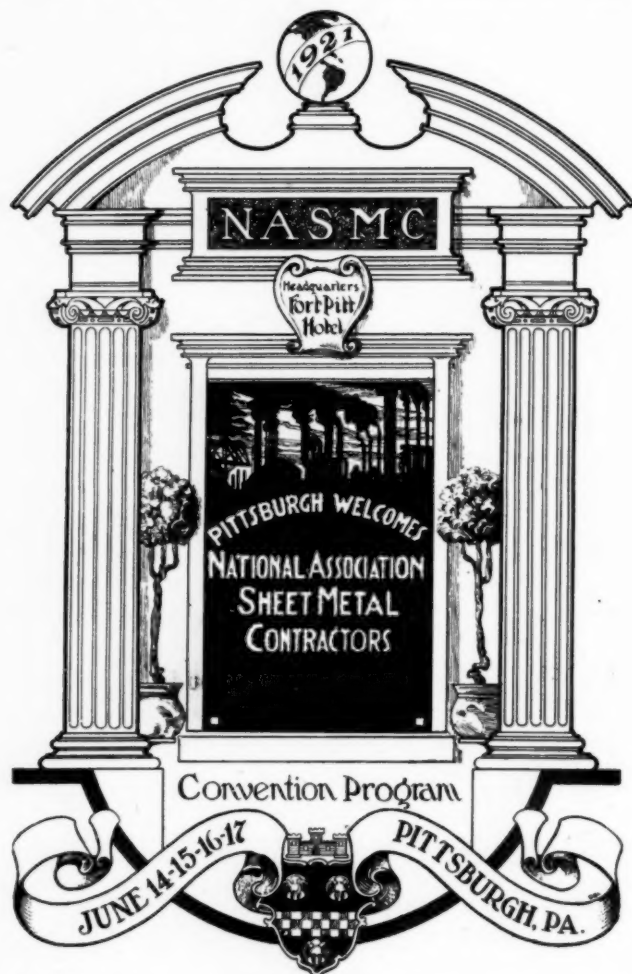
- 9:00 a. m.—Registration of Delegates. Distribution of Badges. Rose Room.
10:00 a. m.—Convention called to order in English Room. Fort Pitt Hotel, by Chairman of Convention Committee, Louis Luckhardt.
Meeting opened by singing "America."
Address of Welcome by Hon. E. V. Babcock, Mayor of Pittsburgh.
Response by National President Arthur P. Lamneck.
Appointment of Committees.
Report, Convention Committee.
Question Box.
1:30 p. m.—Reports:
Credential Committee.
National President.
National Treasurer.
National Secretary.
2:30 p. m.—"Building Construction and Vocational Training," Professor Clifford G. Dunnells, Carnegie Technical School.
3:30 p. m.—Report, Apprenticeship Committee, Peter A. Johnson.
Address, L. Broemel.
Report, Lecture Committee, F. B. Hiller.
General discussion.
Question Box.
8:00 p. m.—Get-together and Entertainment by local talent. English Room.

Wednesday, June 15, 1921.

- 9:30 a. m.—Report, Labor Committee, E. L. Seabrook.
Address, "Hard Labor," Alfred A. Green.
Address, "Zinc and Its Uses," S. P. Tuthill, American Zinc Institute.
Address, Allen W. Williams, Secretary, Warm Air Heating and Ventilating Association.
Moving picture of the making of sheet steel from the ore to the finished product, T. W. Jenkins, American Rolling Mill Company.

Trade Development Committee Session.

- 1:30 p. m.—Opening remarks by the chairman, P. F. Brandstedt.
"General Use of Sheet Metal and Our Delinquency," E. A. Scott, Editor, *Sheet Metal Worker*.
"Warm Air Heating," George Harms, Peoria, Illinois.
"Ventilation in Modern Building Construction," D. M. Haines, Chicago, Illinois.
"Skylights, their Uses and Standards," Thomas P. Shean, Chicago, Illinois.
"Metal Roofing—Application and Superiority," Max Walten, Washington, D. C.
"Protective Coatings, Painting," Paper prepared by Bureau of Standards, A. G. Pedersen, Editor *AMERICAN ARTISAN AND HARDWARE RECORD*.
"Blow Pipe and Exhaust Work," H. F. Munro, Philadelphia.
"Fire Prevention Work—A Big Factor in our Business," Paul L. Biersach, Milwaukee, Wisconsin.



Cover Design of Program of National Association of Sheet Metal Contractors' Convention.

pass many of the mills along the railroad coming into the city, see the narrow, canyon-like streets in the small triangle known as the 'business section,' and naturally the impression is unfavorable.

"The Committee has arranged to change and broaden the vision of its guests at the Convention. We'll take you upon the hills and let you look down on the city, down in the valley and look up at the hills, show you our fine residence streets with velvet-like hillside lawns, throughout fine parks, Tech School, Museums, Art Galleries, Schools, Churches, and over splendid asphalt roads which wind over and around hills, down through cool shady valleys, over Coraopolis and Sewickley Heights, and again into the country to a splendid road house for a chicken and waffle dinner and dance, with lawns and fields to wander over, and back to the city at night.

"The ladies will be taken on shopping tours through Pittsburgh's splendid stores, to the Heinz plant, where

"The Architect's Viewpoint," Edward Stotz, Pittsburgh, Pennsylvania.

Address, George Thesmacher, Cleveland, Ohio.

Report of the year's work and financial accounting.

Paul F. Brandstedt, Washington, D. C.

8:00 p. m.—Boat Ride on the river, with dance and refreshments.

Thursday, June 16, 1921.

9:30 a. m.—Report, Trade Relations and Policy Committee. Edwin L. Seabrook.

Demonstration on Overhead Expense. Wm. D. McIlroy.

General Discussion.

Question Box.

2:00 p. m.—Auto Tour, Dinner, Dance.

Friday, June 17, 1921.

9:30 a. m.—Reports:

Board of Trustees.

Resolutions Committee.

State Associations.

General Discussion.

Election of Officers.

Selection of Convention City for 1922.

Adjournment.

LADIES' PROGRAM.

Tuesday, June 14th.

1:00 p. m.—Visit to Carnegie Museum and Margaret Morrison School.

3:00 p. m.—Get-together and Get-acquainted meeting, English Room. For ladies and gentlemen.

Wednesday, June 15th.

9:30 a. m.—Personally conducted shopping tour.

Visit to Heinz Plant, luncheon to be served.

8:00 p. m.—Boat Ride and Dance.

Thursday, June 16th.

9:30 a. m.—Visit to Washington Heights.

2:00 p. m.—Annual Outing, Auto Trip, Dinner and Dance.

Friday, June 17th.

A. M.—Shopping and sight-seeing tour.

The Sheet Metal Contractors of Marion, Indiana, Organize.

Joseph C. Gardner, President of the Sheet Metal Contractors' Association of Indiana; E. W. Norman, President of the Jobbers and Salesman's Auxiliary; J. C. Henley, Sales Manager of Tanner & Company; F. A. Wilkening, Manager of the Standard Metal Company and George C. Pattison of Kruse Company, Indianapolis, went to Marion on the night of May 14th and assisted the Sheet Metal Contractors of that city in their "get together" meeting.

After much discussion, in which everyone present participated, it was decided to organize a local association at once and also to become members of the State and National Association of Sheet Metal Contractors.

W. A. Brown was made Chairman of the meeting. Election was held and the following officers chosen: W. A. BROWN, President; HOWARD SWANGER, Vice-President; E. E. BAIR, Secretary; FRED BRUNKA, Treasurer. LEE BRADFORD of Bradford Bros.; MR. CUTTING of the Northend Hardware Company and L. L. CLIFFORD, Directors. Committee on Constitution and By-Laws: LOUIS PFEFFERLE, LEE BRADFORD.

The following concerns became members of the new Association: W. A. Brown, Louis Pfefferle and Son, Brunka Brothers, Bradford Brothers, Swanger & Eddy, Swanger & McLain, Charles Beshore & Son, Northend Hardware Company, L. L. Clifford, and Blair Sheet Metal Works.

One of the bright spots of the trip was the six o'clock dinner given by Mr. and Mrs. W. A. Brown at their home for the Indianapolis delegation. Their

hospitality will long be remembered by these gentlemen who were fortunate enough to be their guests.

Trade-Mark Is Registered for Aluminum Solder.

Under number 139,088, United States Patent Office registration has been procured by Harry Ormiston,

London, England, for the trade-mark shown in the accompanying illustration. No claim is made to the words "Alumina Solder"



apart from the mark as shown. The particular description of goods to which it applies is aluminum solder. The Company claims use since the 22nd day of January, 1920.

Who Pays for Advertising?

It is often asked, who pays for advertising?

If the question is analyzed, it will be found that nobody pays for it, as the right kind of advertising produces so much larger volume of business that the profits on the increased volume pay for all of the expense, and therefore, no one is hurt.

It is said that advertising in the United States has increased yearly until it amounts to one billion dollars per year.

Nearly every one who spends money for advertising spends more each year because of the increased profits arising therefrom, and after all, what would our country be without advertising?

We would not enjoy our newspapers or magazines so much if these advertisements were not in them.

Can you imagine receiving your evening paper or your favorite magazine with just plain news or stories and without the attractive advertisements which go to help make up the publications of the country?

Courtesy and Conciseness Are Important Attributes of Real Salesmanship.

Courtesy is a qualification that is too seldom found in salesmen. Treat every customer as if he were the most important banker in your city and you will make no mistake, because you will then try to use all the courtesy in your makeup.

Conciseness is an attribute found only in real salesmen. Tell what you have to say in as few sentences as possible. Practice selling each article a number of times until you can in the shortest space of time tell all there is about it and yet without using superfluous words. Don't start a conversation on a subject that has nothing to do with the purpose of your customer's visit to you, but do not overdo this qualification by being unable to talk on any business subject that is really connected with your line of business. After all, conciseness is closely related to "Knowledge of the Business." The customer wants you to know all about the product you offer, not just the one you have in hand. Generally speaking, "Conciseness" has more to do with what you do not say.—Joseph P. Glaser.

You Have Thirty-three and One-third Per Cent of Chances to Succeed in Any Business You May Enter.

*This Percentage Is Based upon the Most Favorable Conditions.
When the Odds Are Greater, You Will Have to Work Harder.*

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg,
Peoria, Illinois.

(Copyright, 1921, by J. C. Greenberg.)

Every human being has only one chance in three to succeed under the very best condition possible. By this I mean that if you had all the chance possible for success, the best you would have would be one chance out of three to succeed. This may appear to you as a very broad statement, but it is a law of nature which causes this average, and it can't be beaten. Your chances are $33\frac{1}{3}$ per cent. That's all. You must take your chance in everything.

Please note at the outset that when I say chance, I do not mean gamble. Let me explain this. When you take a chance, you choose one way from the several and the way you choose is based on some logical reasoning. But when you take a gamble, you speculate and depend on luck."

There is no logical basis on which to choose a gamble. If you have played poker you know all about it. This being understood, let us go ahead and see how to choose the right road.

The moment you were born, your chances shaped themselves. Your natural instinct to live was governed by that $33\frac{1}{3}$ per cent. If your food was too little your chance to starve to death was good. If your food was too much, you had a fine chance to die from colic. But if the food was proportioned in a happy medium, you thrived and lived. You will notice that the two chances to fail were placed at both extremes. Too little and too much. Either one would have killed you.

When you grew and started to school, your chance for education was the same. If you learned too little, your chance for education was poor. If you learned too much you would probably die of brain fever. But if you learned along the line of the happy medium, your chance for a good education was perfect. Again, we see that $33\frac{1}{3}$ per cent.

When you contemplated marriage, the same chance presented itself. If you courted little, it showed weak love, and you lost a sweetheart. If you courted too ardently, it became sickening to your sweetheart. She

got "fed up," and again you lost. But if you courted sensibly along the happy medium, you won out and married. Again that little old $33\frac{1}{3}$ per cent.

When you started to work for a living, it was the very same way. If you worked too little, you could not earn enough money to support yourself. If you worked too much, you would break down. But if you worked along the happy medium, you prospered and profited. There is that $33\frac{1}{3}$ per cent again.

When you started to save money, the same law manifested itself. If you saved all of your income, you could not pay your bills. If you spent all of it, you could not save any. But if you saved along the happy medium, you did well at both ends. You simply can not shake that $33\frac{1}{3}$ per cent.

Again, it was the very same thing when you started in business. If you devoted too little time to your business, you would lose trade. If you devoted too much time to it, you would not have any time to attend to your personal recreation and sleep. But if you conducted your business in a happy medium you succeeded. Oh you $33\frac{1}{3}$ per cent!

When you buy goods it is likewise. If you do not buy enough, you have not enough to sell. If you buy too much,

you must sell below profit. But if you buy and remember that happy medium, you are generally safe. Can you beat that $33\frac{1}{3}$ per cent?

Take your profits for instance. If you make little profit, you can not stay in business. If you make too great a profit, you will drive away your trade. But when your profits are on a happy medium, you are doing well. Yep. The $33\frac{1}{3}$ per cent is still among those present.

I suppose you will want to put one over on me and say, "How about the workman. Can he do too much for his wages?" Surely he can. If he does not do enough, you will fire him. If he works too much he will play out too soon. But if he works along the happy medium, he works well and wisely. Always remember,

If all the chances of life and business were in our favor, we would become so fat that the only place left open for us would be an elevated platform in the side show of a circus.

It is good for us, therefore, that, as Greenberg points out, the odds are against us. We are obliged to exert ourselves to overcome them.

Thus we have ample opportunities to exercise all our faculties. The efforts which we make to succeed have the effect of developing our powers of mind and body.

Of course, no sane person wants a hundred per cent of chances in his favor. Such a condition would destroy all initiative and ambition.

that either too little or too much will lose a workman.

You will find this percentage manifests itself throughout life. Nature has laid this scheme for us, and we must obey it or suffer the consequences.

Her great scheme applies just as truly to vegetable life as to human life. Take a peach for instance. A green unripe peach is not fit to eat. An over ripe peach is usually rotten. But a peach between the two extremes is the ripe one, and the one which we can eat and enjoy. Laugh at that little $33\frac{1}{3}$ per cent if you want to, but I dare you to break this Natural law. Just try it and see for yourself.

You can not break it, because it is a law made by Nature, and governs all in Nature. You are part of Nature, and being so, are governed by its laws.

This great law is true of all life, and business life is no exception. How shall we find that happy medium? This, I doubt can be answered with anything like a degree of certainty. Let me give you a simple idea that will lead you to the meaning of "happy medium."

Take a ruler; cut from it the end which has 1-2-3 inches marked. Place the three inch piece on the table, and study it. You will find that the first inch is the lesser extreme, the third inch is the greater extreme, and the second inch is the happy medium. Put a strain on either end, and you will break the happy medium just the same as you break the happy medium in life by putting a strain on the extremes.

The happy medium is the greatest equal distance between both danger points. It is the balancing point between two evils, because both extremes are equal in their destructive powers.

Many great men have failed in great undertakings because they have tried to change this law. Napoleon failed because he was the victim of extreme ambition. The Kaiser failed because he created an extreme military system. The Czar of Russia failed because he created an extreme autocracy.

A drink of water will save a life, too much water will take one. A miser is a failure, so is a spendthrift. Both are victims of extremes. Little power is a weakness. Greatest power is dangerous. No matter where you choose to look, you will find that law in evidence. It is always the middle of the road to success. Too much of anything, or too little of anything are equally dangerous.

Apply this to your business and daily life, and you will succeed and be happy. Take your little $33\frac{1}{3}$ per cent and place your best bet on it. It is all you are allowed by nature for your own safety and, by golly, that's all you'll get.

Gets Many Responses from Ad in AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Please discontinue my Want Ad for a tinner. Every tinner in the country must read your paper, judging from the number of responses which I received. I had no trouble in locating a good man. Thank you.

H. W. DARROW.

Winamac, Indiana, May 27, 1921.

Sacrificing Dollars in Usefulness for Dimes in the Purchase.

Clayton & Lambert Capital Stock Is Increased to One and a Half Million Dollars.

The Clayton & Lambert Manufacturing Company, manufacturers of fire pots, torches, auto sheet metal parts, etc., Detroit, Michigan, have increased their capital stock from \$1,000,000 to \$1,500,000.

Notes and Queries.

Special Machine.

From M. B. Miles, Clarion, Iowa.

Can you advise where I can get a machine made that would take a small brass tube and shrink one end, about as a shell for a cartridge? It would have to be operated by power.

Ans.—Cramp Manufacturing Company, 900 West Van Buren Street; Aetna Machine and Manufacturing Company, 625 West Jackson Boulevard; both of Chicago, Illinois.

Chemical Closets.

From Loiseau and Entringer, Colman, South Dakota.

We would like to know who makes chemical closets.

Ans.—Independent Register and Manufacturing Company, 414 Perry Payne Building, Cleveland, Ohio; Automatic Chemical Closet Company, 1417 Washington Avenue, North, Minneapolis, Minnesota; Dail Steel Products Company, Lansing, Michigan; Kawnear Cabinet Company, 1716 Wabash Avenue, Kansas City, Missouri; Smith System Heating Company, 821 Washington Avenue, Southeast, Minneapolis, Minnesota.

Repairs for Olympia Oil Stoves.

From Russell and Son, Fayette, Ohio.

Where can we get repairs for the Olympia oil stove?

Ans.—George M. Clark and Company, 179 North Michigan Avenue, Chicago, Illinois.

Rolls for Corrugating Iron.

From E. E. Pickell, Southern Steel Company, San Antonio, Texas.

Kindly advise where we can obtain two rolls for corrugating iron.

Ans.—Wheeling Mold and Foundry Company, Wheeling, West Virginia; Treadwell Engineering Company, Easton, Pennsylvania; The National Roll and Foundry Company, Avonmore, Pennsylvania; Morgan Construction Company, Worcester, Massachusetts; United Engineering and Foundry Company, Pittsburgh, Pennsylvania.

Copper Sheets.

From E. H. Morton, Hardin, Montana.

Will you kindly advise where I can buy six ounce and eight ounce cold rolled plain copper sheets?

Ans.—C. G. Hussey and Company, 2850 Second Street, Pittsburgh, Pennsylvania; Merchant and Evans Company, 347 North Sheldon Street, Chicago, Illinois; Metal Products Company, Incorporated, 100 South Jefferson Street, Chicago, Illinois; Trumpbour-Whitehead Brass and Copper Company, 43 North Seventh Street, Philadelphia, Pennsylvania.

Wire Screen.

From E. H. Morton, Hardin, Montana.

Kindly inform me where I can obtain wire screen one inch mesh twelve gauge.

Ans.—Wickwire Spencer Steel Corporation, 33 West Austin Avenue, Chicago, Illinois.

Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,372,670. Lawn Trimming Device. Thomas Corrow, Swampscott, Mass. Filed September 9, 1919.

1,372,672. Method of Sealing Preserving Jars. Ada C. Crofford, Bennett County, S. D. Filed July 8, 1918.

1,372,713. Garage Heater. Samuel E. Maxwell, Avalon, Pa. Filed July 12, 1918.

1,372,722. Shovel. Oswald Paradis, Central Falls, R. I. Filed June 29, 1920.

1,372,726. Chuck Jaw. Harry E. Sloan, Hartford, Conn. Filed May 29, 1918.

1,372,729. Milk Bottle Rack. Robert V. Townsend, Riverside, R. I. Filed November 7, 1919.

1,372,778. Soldering Iron. Roy Granville Sands, Waukegan, Ill., assignor to Frank B. Cook Company, Chicago, Ill., a Corporation of Illinois. Filed October 9, 1917.

1,372,784. Reel. John Sommer, Peoria, Ill., assignor to Keystone Steel & Wire Company, South Bartonville, Peoria, Ill. Filed June 13, 1919.

1,372,807. Knife. Laura Gallinek, New York, N. Y. Filed June 5, 1920.

1,372,831. Artificial Bait. Glen M. Roderick, Chicago, Ill. Filed November 2, 1920.

1,372,851. Flashlight. George V. C. Vreeland, East Orange, N. J., assignor to National Carbon Company, Inc., a Corporation of New York. Filed December 9, 1919.

1,372,894. Well Drill Bit. William E. Minton, Kansas City, Mo. Filed April 5, 1920.

1,372,899. Can Opener. Richard D. Nileon, Bell, Pa. Filed September 11, 1920.

1,372,902. Stove. Severin Pearson, Brooklyn, N. Y. Filed April 13, 1920.

1,372,906. Animal Trap. Charles Richmond, Smyrna, Mich. Filed February 7, 1920.

1,372,917. Underreamer. Fred Swan, Marietta, Ohio. Filed August 25, 1919.

1,372,918. Wrench. Andrew G. Udgaard, Miles City, Mont. Filed May 24, 1920.

1,372,923. Door Latch. Carl E. Anderson, Worcester, Mass. Filed August 13, 1919.

1,373,004. Coaster Vehicle. John E. Hoffman, Kansas City, Mo. Filed May 3, 1920.

1,373,105. Miter Box. Theodor Simonsen, Jersey City, N. J. Filed April 29, 1920.

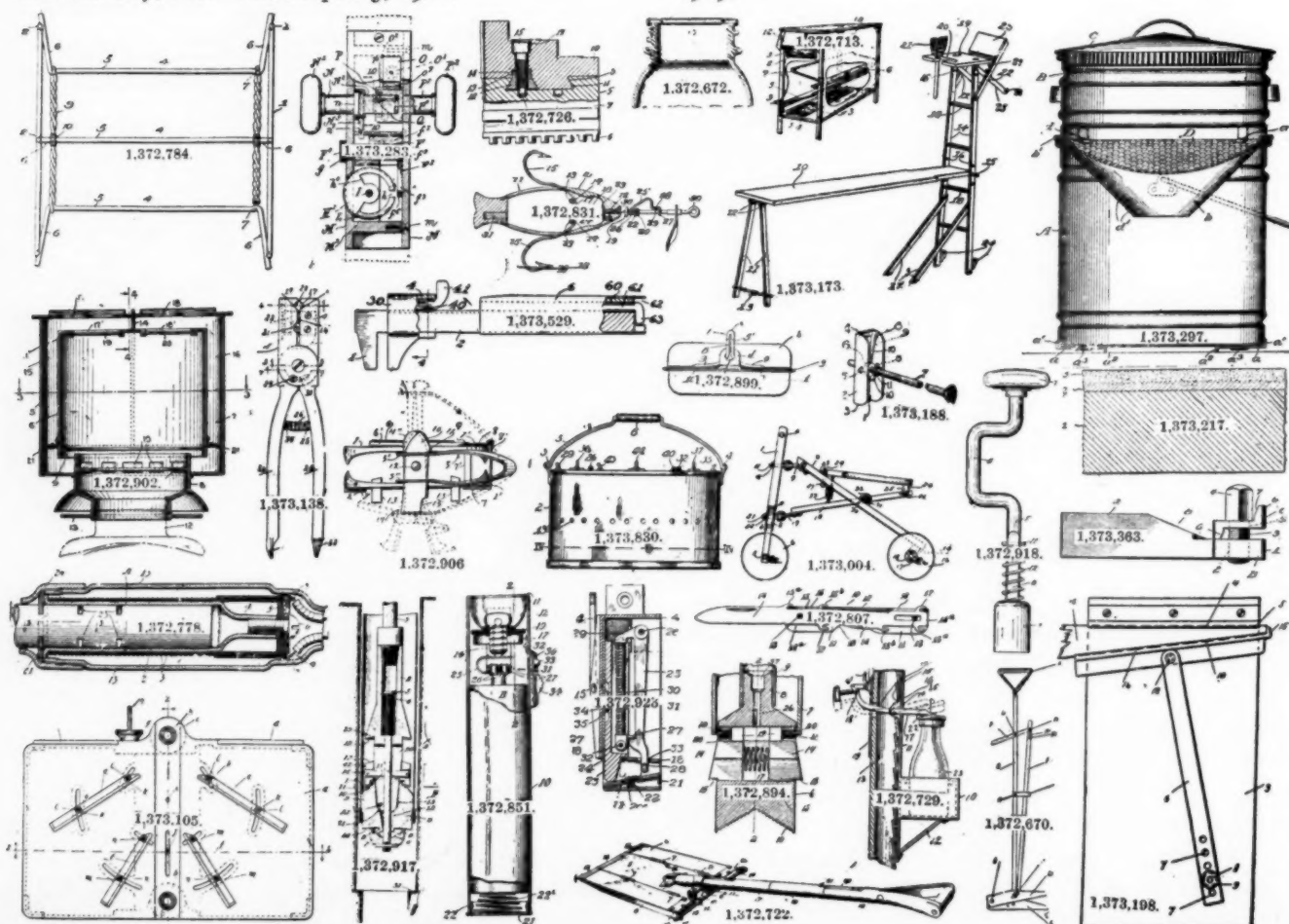
1,373,138. Combination Tool. George K. Larimore, Springfield, Ill. Filed December 22, 1919.

1,373,173. Combination Board. Marjiona O. Dazinskiene, St. Louis, Mo. Filed March 27, 1920.

1,373,188. Toggle. James Edward Goewey, Newark, N. J., assignor to Diamond Expansion Bolt Company, New York, N. Y., a Corporation of New York. Filed July 17, 1919.

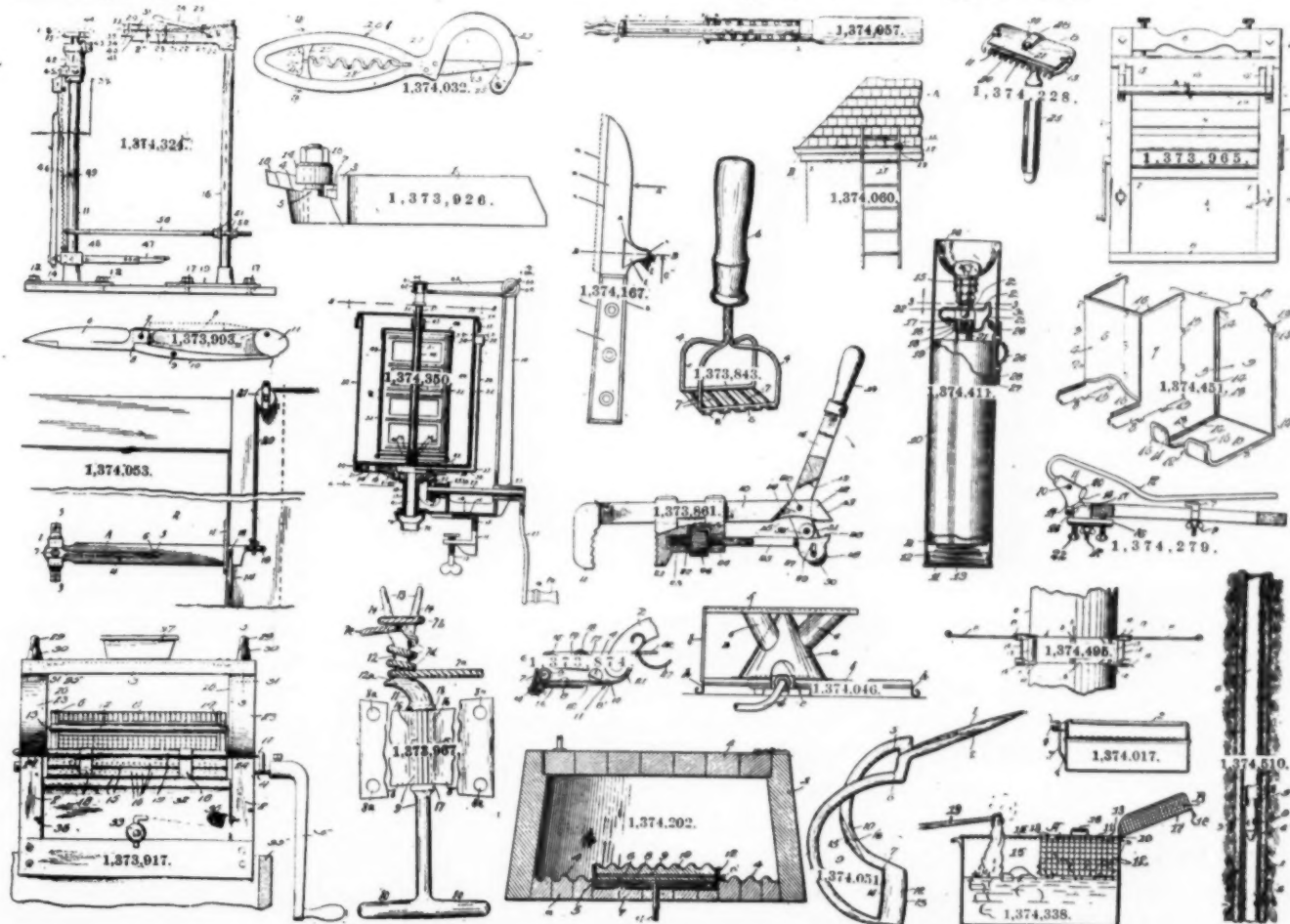
1,373,198. Bench Vise. Edgar O. Munger, Geneva, Ohio. Filed July 6, 1920.

1,373,217. Vitreous Coated Shingle and the Like. Harry Warman, Cleveland, Ohio. Filed September 24, 1919.



1,374,046. Gas Cooking Stove and Like Heater.
George Waite, Bexhill-on-Sea, England. Filed No-
vember 30, 1920.

1,374,510. Fishing Tool. John Frank McDowell,
Shreveport, La. Filed April 26, 1920.



Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

VOLUME OF STEEL OUTPUT IS LESS THAN USUAL.

The main feature of the present condition of the steel industry is a shrinkage in the volume of output, a decrease in new orders and an enhancement of the feeling that there will be no revival in business this summer.

Also, there is a softening in the prices of more finished steel products which has disclosed the fact that most of the independents are sustaining a loss when selling at the schedule of prices established the middle of last month.

The average rate of operation at the steel mills throughout the country is put at from 30 to 35 per cent of capacity with those of the leading interest well in the lead at more than 40 per cent.

It is doubtful, however, if the new business being booked by the corporation amounts to 10,000 tons a day.

Pig iron is lighter than it has been in years but stocks in yards throughout the country are estimated at approximately 1,000,000 tons which is about evenly divided between merchants and steel interests.

In the Mahoning Valley there were only 14 open-hearth furnaces active during the week as compared with 26 the week before.

The Carnegie Steel Company has only 16 out of 59 furnaces on the active list but stocks are being drawn from and the finishing mills of this company are operating at 40 per cent of normal.

In the Chicago district the Inland Steel Company has curtailed operations to 30 per cent of capacity, but the Illinois Steel Company is maintaining a rate of 32 per cent.

This latter company has only 10 out of 29 furnaces in blast.

All the ovens of the H. C. Frick Coke Company, the fuel subsidiary of the United States Steel Corporation, are cold for the first time in the memory of the oldest operator in the Connellsville field.

The last ovens went out within the week and such a condition a few years ago would have caused a profound sensation in the coke industry but the end has been approached steadily during the past few weeks and was fully anticipated.

The equipment of this company includes some 19,600 ovens. Evidently the corporation's furnaces are stocked up with coke sufficient to maintain present output for some time to come. Of the 22,000 independent merchant ovens in the Connellsville district less than 2 per cent are active.

Steel.

So far this season there has been no signs of an iron ore buying movement and shipments down the Lakes continue light while the revised estimates of

the season's movement are now as low as 25,000,000 tons.

No reduction in freight rates from the mines to the docks has been granted, but vessel rates from the head of the Lakes to the lower Lake ports have been established at the 1919 level of 80 cents a ton as compared with last year's rate of \$1.

The rate will be 72 cents from Marquette and 60 cents from Escanaba to Lake Erie ports and 48 cents from Escanaba to Chicago.

Many consumers are taking no ore whatever this season as they figure that stocks on hand will carry them through and so far only about 181 freighters out of 369 are being operated.

Estimates of the amount of the cut run from 10 to 20 per cent the latter being the amount of the recent reduction by the United States Steel Corporation.

Growing pressure being exerted on the railroads to reduce freight rates and this is undoubtedly the first move.

As to when the carriers will announce new rates is the question that is absorbing the interests of the industry and guesses range from coincidence with the cut in wages to several months hence.

Copper.

Inquiries from domestic consumers of copper are numerous and actual sales, although small in individual amounts—the general run being under rather than over 1,000,000 pounds—are in slightly larger aggregate volume.

Germany and Japan together have purchased about 20,000,000 pounds in the past fortnight.

Some of this business with the Orient is speculative in nature; but Germany apparently is using all the copper it can acquire in consumption.

England, although having no large supply of copper on hand, is not as active a buyer as a few months ago, because of the coal strike. The latter is seriously handicapping manufacturing operations.

The business situation has turned the corner in this country, but for a time improvement will appear slow. There was an increase of 19.8 per cent in the total building expenditure in April over March, the total of \$146,000,000 exceeding that of any month since April, a year ago, the high record month.

In the Chicago market there has been an increase of $\frac{3}{4}$ cent per pound in the price of copper sheet, mill base, making the present quotation 21 $\frac{1}{4}$ cents per pound.

Tin.

The Far Eastern market was off £3 on a stagnant market and only two cables were received from that quarter during the week.

The decline in tin was accelerated as the week progressed and the largest losses were sustained during the last day of trading.

Just how far the paying of the German indemnity will appreciate the American dollar has not yet been ascertained, but higher exchanges are in order in the near future.

There was little or no demand from consumers during the week and what trading took place was between speculators.

The tin mills of the country are running at about 25 per cent of capacity and seem well covered as to supplies.

This, of course, applies to the independents, as the United States Steel Corporation imports its supplies of tin and does not purchase in the open market.

A decline of $\frac{3}{4}$ cent took place in Chicago tin prices, pig tin increasing from $35\frac{1}{2}$ cents per pound to $34\frac{3}{4}$ cents and bar tin from $37\frac{1}{2}$ cents to $36\frac{3}{4}$ cents per pound.

Lead.

The export demand for lead is at a standstill and domestic consumers are buying only from hand to mouth as needed.

Outside of a little bullion from American owned mines in Mexico there has been no importations since the Spanish consignment some weeks ago.

The leading interest maintained its quotation of 5 cents a pound for both New York and St. Louis throughout the week.

Since the last of February the New York price has advanced steadily from 3.75 cents to better than 5 cents but the market is decidedly weaker at present.

Chicago prices went down 5 points during the week. American pig lead decreased from \$5.25 per hundred pounds to \$5.20 and bar lead from \$6.00 to \$5.95 per hundred pounds.

Solder.

In line with the decrease of lead prices, solder was reduced in the Chicago market \$1.00 per hundred pounds. Quotations now in effect are: Warranted, 50-50, per hundred pounds, \$22.00; Commercial, 45-55, per hundred pounds, \$20.50; and Plumbers', per hundred pounds, \$19.25.

Zinc.

A steady decline due to continued selling pressure on the part of a few holders of stocks coupled with a still small demand characterized by the domestic zinc market during the week.

The weakness was on the part of only a few sellers for in the main the large stocks of zinc in this country are strongly held.

There were a few orders in the market but far from sufficient to absorb the offerings.

As was the case with lead export demand for zinc was entirely lacking.

During the week the St. Louis settling price declined from 4.80 to 4.70 cents a pound while the nominal New York price eased off from 5.15 to 5.05 cents.

Slab zinc was reduced in the Chicago market from \$5.25 to \$5.20 per hundred pounds. Sheet zinc also declined in price. Cask lots fell off 2 cents per pound, from 13 to 11 cents. The range of prices on less than cask lots decreased from $13\frac{1}{4}$ - $13\frac{1}{2}$ cents to $11\frac{1}{4}$ - $11\frac{1}{2}$ cents.

Sheets.

Reports from the Pittsburgh district indicate that sheets are being bought only as needed, buyers refusing to anticipate their requirements for more than one week.

Not much tonnage is moving since no manufacturer is operating on a basis that causes material to disappear quickly.

The most encouraging aspect of the situation, according to producers, is the fact that practically 85 per cent of the orders for automobile sheets are for rush shipment.

The government opened bids last week on 275 tons of sheets for one of the navy yards.

The order was placed with a company whose sheet mills have been idle for three weeks.

Since the order calls for shipment within the week it may be necessary to place the business elsewhere.

Tin Plate.

Current buying of tin plate is only sufficiently large to absorb the extremely limited production. Reluctance to buy containers by practically all packers, with the possible exception of the condensed milk trade, continues to be noted. This in turn holds up specifications from the canmakers.

Whereas tin plate producers should now be operating practically full on can material for the new vegetable crop, it is estimated that an average of the industry would not exceed 35 per cent, if it would be that high.

So far as reported, production plate remains firm at \$6.25 per base box of 100 pounds, Pittsburgh, although stock tin plate is moved all the way from 50 to 75 units under that figure.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$14.50 to \$15.00; old iron axles, \$24.00 to \$25.00; steel springs, \$12.50 to \$13.00; No. 1 wrought iron, \$11.00 to \$11.50; No. 1 cast, \$14.00 to \$14.50; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 7 cents; light brass, 4 cents; lead, 3 cents; zinc, 2 cents; cast aluminum, 10 cents.

Pig Iron.

At the present time between 85 and 90 per cent of the total merchant furnace capacity of the country is idle not alone on account of the dulness of the market but through the inability of furnace interests to produce iron at a price that can compete with present quotations.

The present quotations of pig iron change but slightly although an order for several thousand tons might bring out a small concession in price, but it is hard to determine in what manner a reduction can be effected in the face of present production costs.

Dry Batteries

One of the leading manufacturers of dry batteries announces a substantial reduction in price of his entire line of standard types dry batteries. An extensive newspaper advertising campaign is being used by this manufacturer to inform the public of the price reductions which went into effect June 1st.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS		HARDWARE	
PIG IRON.		ADZES.	
Northern Fdy. No. 2.....	\$23 70	Carpenters'.....	
Southern Fdy. No. 2.....	26 67	Plumbs.....Per doz. \$29 00	
Lake Sup. Charcoal.....	37 50	Coopers'.....	
Malleable	23 70	Barton's	Net
		White's	Net
FIRST QUALITY BRIGHT TIN PLATES.		Railroad.....	
		Plumbs.....Per doz. \$30 00	
		AMMUNITION.	
IC 14x20 112 sheets	\$12 50	Shells, Loaded, Peters.	
IX 14x20.....	13 60	Loaded with Black Powder, 18%	
IXX 14x20.....	15 20	Loaded with Smokeless Powder.....	13%
IXXX 14x20.....	16 60	Winchester.	
IXXXX 14x20.....	18 10	Smokeless Repeater Grade,	
IC 20x28.....	25 0010 & 4%	
IX 20x28.....	27 20	Smokeless Leader Grade,	
IXX 20x28.....	30 4010 & 4%	
IXXX 20x28.....	33 20	Black Powder.....10 & 4%	
IXXXX 20x28.....	36 20	U. M. C.	
COKE PLATES		Nitro Club.....18%	
Cokes, 180 lbs.... 20x28	\$14 20	Arrow.....18%	
Cokes, 200 lbs.... 20x28	14 50	New Club.....18%	
Cokes, 214 lbs.... IC 20x28	14 85	Gun Wads—per 1000.	
Cokes, 270 lbs.... IX 20x28	16 65	Winchester 7-8 gauge 10&7 1/4%	
		" 9-10 gauge 10&7 1/4%	
		" 11-28 gauge 10&7 1/4%	
BLUE ANNEALED SHEETS.		Powder. Each	
Base.....per 100 lbs.	\$4 13	DuPont's Sporting, kegs..	\$11 25
ONE PASS COLD ROLLED BLACK.		" " 1/4 kegs 3 10	
No. 18-20.....per 100 lbs.	\$5 20	DuPont's Canisters, 1-lb..	56
No. 22-24.....per 100 lbs.	5 25	" kegs.. 22 00	
No. 26.....per 100 lbs.	5 30	" 1/4 kegs 5 75	
No. 27.....per 100 lbs.	5 35	" canisters 1 00	
No. 28.....per 100 lbs.	5 40	Hercules "E.C." kegs.....	22 50
No. 29.....per 100 lbs.	5 50	Hercules "Infalible," 25-can drums	22 00
		Hercules "Infalible," 10-can drums	9 00
		Hercules "E.C." and "Infalible," canisters.....	1 00
GALVANIZED.		Hercules W. A. 30 Cal. Rifle, canisters	1 25
No. 16.....per 100 lbs.	\$5 65	Hercules Sharpshooter Rifle, canisters	1 25
No. 18-20.....per 100 lbs.	5 80	Hercules Bullseye Revolver, canisters	1 00
No. 22-24.....per 100 lbs.	5 95		
No. 26.....per 100 lbs.	6 10	ANVILS.	
No. 27.....per 100 lbs.	6 25	Solid Wrought...23 & 23 1/2 c per lb.	
No. 28.....per 100 lbs.	6 40		
No. 30.....per 100 lbs.	6 90	ASBESTOS.	
		Paper up to 1/16.....10c per lb.	
BAR SOLDER.		Millboard 3/32 to 1/4.....10 1/2 c per lb.	
Warranted,		Corrugated Paper (250 sq. ft.).....	\$6.50 per 100 lbs.
50-50.....per 100 lbs.	\$22 00	Rollboard.....	11c per lb.
Commercial,		AUGERS.	
45x55.....per 100 lbs.	20 50	Boring Machine.....40 @ 40 & 10%	
Plumber's.....per 100 lbs.	19 50	Carpenter's Nut.....50%	
		Hollow.	
ZINC.		Bonney's.....per doz. \$30 00	
In Slabs.....	\$5 20	Post Hole.	
		Iwan's Post Hole and Well...30%	
SHEET ZINC.		Vaughan's, 4 to 9 in.	
Cask lots	11cper doz. \$14 00	
Less than cask lots.....	11 1/4-11 1/2 c	Ship.	
		Ford's	Net
COPPER.		Brad.	
Copper Sheet, mill base...\$0 21 1/4		No. 3 Handled...per doz. \$0 65	
		No. 1050 Handled " 1 40	
		Patent ast'd, 1 to 4 " 85	
LEAD.		Harness.	
American Pig	\$5 20	Common	1 05
Bar	5 95	Patent	1 00
Sheet.		Peg.	
Full coils.....per 100 lbs.	\$8 25	Shouldered	1 60
Cut coils.....per 100 lbs.	8 50	Patented	75
TIN.			
Pig tin	34 1/2 c		
Bar tin	36 1/2 c		
		Scratch.	
		No. 18, socket	
		Handledper doz. \$ 2 50	
		No. 344 Goodell-Pratt, list less.....	35-40%
		No. 7 Stanley...per doz. \$ 2 25	
		AXES.	
		First Quality, Single Bitted, 3 to 4 lb., per doz.	16 50
		First Quality Double Bittedper doz.	22 50
		Broad.	
		Plumbs. Can. Pat., 6-lb.	65 00
		Single Bitted (without handles).	
		Plumbs, 4 1/2-lb.....	19 50
		Double Bitted (without handles).	
		Plumbs, 4 1/2-lb.....	23 50
		BAGS, PAPER, NAIL.	
		Pounds .. 10 16 20 25	
		Per 1000..\$5 00 6 50 7 50 9 00	
		BALANCES, SPRING.	
		Sight Spring.....Net	
		StraightNet	
		BARS, WRECKING.	
		V. & B. No. 12.....	\$0 45
		V. & B. No. 24.....	0 75
		V. & B. No. 324.....	0 80
		V. & B. No. 30.....	0 85
		V. & B. No. 330.....	0 90
		BASKETS.	
		Clothes.	
		Small Willow...per doz.	\$15 00
		Medium Willow. "	17 00
		Large Willow... "	20 00
		Galvanized. 1 bu. 1 1/2 bu.	
		Per doz.....	\$16 08 \$18 72
		BEATERS.	
		Carpet. Per doz.	
		No. 7 Tinned Spring Wire..	\$1 10
		No. 8 Spring Wire Cop-	
		pered	1 50
		No. 9 Preston.....	1 75
		EGG. Per doz.	
		No. 50 Imp. Dover.....	\$1 10
		No. 102 " " Tinned 1 35	
		No. 150 " " hotel 2 10	
		No. 10 Heavy hotel tinned 2 10	
		No. 13 " " " 3 30	
		No. 15 " " " 3 60	
		No. 18 " " " 4 50	
		Hand. 8 9 10 12	
		Per doz..\$11 50 13 00 14 75 18 00	
		Moulders'.	
		12-inchPer doz.	20 00
		BELLS.	
		Call.	
		3-inch Nickeled Rotary Bell,	
		Bronzed base....per doz.	\$5 50
		Cow.	
		Kentucky	30%
		Door. Per doz.	
		New Departure Automatic	\$7 50
		Rotary.	
		3 -in. Old Copper Bell...	6 00
		3 -in. Old Copper Bell,	
		fancy	8 00
		3 -in. Nickeled Steel Bell 6 00	
		3 1/2-in. Nickeled Steel Bell 6 50	
		Hand.	
		Hand Bell polished List plus 15%	
		White Metal.....	15%
		Nickel Plated.....	5%
		Swiss	10%
		Miscellaneous.	
		Church and School, steel	
		alloys	30%
		Farm, lbs.. 40 50 75 100	
		Each\$3 00 3 75 5 50 7 25	
		BEVELS, TEE.	
		Stanley's Rosewood handle, new	
		list	Net
		Stanley iron handle.....	Net
		BINDING CLOTH.	
		Zincd	55%
		Brass	40%
		Brass, plated.....	60%
		BITS.	
		Auger.	
		Jennings Pattern.....Net	
		Ford Car.....List plus 5%	
		Ford's Ship..... " 5%	
		Irwin	35%
		Russell Jennings.....plus 20%	
		Clark's Expansive.....33 1/2%	
		Steer's " Small list, \$23 00..	5%
		" " Large " \$26 00..	5%
		Irwin Car.....	35%
		Ford's Ship Auger pattern	
		Car	List plus 5%
		Center	10%
		Countersink.	
		No. 18 Wheeler's..per doz.	\$2 25
		No. 20 " " " 3 00	
		American Snailhead " 1 75	
		" Rose " 3 00	
		" Flat " 1 40	
		Mahew's Flat " 1 60	
		" Small " 1 90	
		Dowel.	
		Russel Jennings.....plus 20%	
		Gimlet.	
		Standard Double Cut Gross	\$5 40
		Nail Metal Single	
		CutGross \$4 00—\$5 00	
		Reamer.	
		Standard Square.....Dox.	\$2 50
		American Octagon... " 2 50	
		Screw Driver.	
		No. 1 Common.....	30
		No. 25 Stanley.....	75
		BLADES, SAW.	
		Wood.	
		Disston 30-in.	
		Nos.6 66 36	
		\$9 45 \$10 05 \$9 45	
		BLOCKS.	
		Wooden	20%
		Patent	30%
		BOARDS.	
		Stove. Per doz.	
		24x24	\$13 65
		26x26	16 05
		28x28	18 85
		30x30	21 30
		32x32	25 50
		36x36	30 50
		Wash.	
		No. 760, Banner Globe	
		(single)per doz.	\$5 35
		No. 652, Banner Globe	
		(single)per doz.	6 75
		No. 801, Brass King, per doz.	8 25
		No. 860, Single—Plain	
		Pump	6 25
		BOLTS.	
		Carriage, Machine, etc.	
		Carriage, cut thread, 1/4x6	
		and sizes smaller and	
		shorter	50 & 5%
		Carriage sizes larger and	
		longer than 1/4x6.....	50%
		Machine, 1/4x4 and sizes	
		smaller and shorter.....	60%
		Machine, sizes larger and	
		longer than 1/4x4.....	50 & 10%
		Stove	70%
		Tire	50 & 10%
		Mortise, Door.	
		Gem, iron.....	5%
		Gem, bronze plated.....	5%